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EDITORIAL NOTES.

NEW YEAR'S PROBLEMS.

Each year brings with it a certain amount of routine and a certain amount of new work—of new problems. Comes now 1910 and extends a welcoming hand and a cheery smile of promise for the future; yet also with some problems of its own. Already the political pot is on the fire and there are symptoms that it will boil early in the year. In every district in the state are members of our society; and, likewise, in every district there are citizens with aspirations toward the legislature. True, the time for nominations seems afar; but that is merely deceptive appearance, for even now plans are being made and influence sought. It is our duty to the people of the State of California to see to it that no one shall be nominated to the legislature who has not had thoroughly explained to him some of the elements of public health demands. Smallpox is steadily increasing in the state and, what is a graver menace, it is becoming each year more virulent in type. During the past year the schools in several towns in the state had to be closed on account of epidemic smallpox. Would it not be infinitely worse if the compulsory vaccination act were to be repealed? Can you not see to it that whoever is chosen to represent your district in the legislature shall know what a grave danger threatens the state and how vitally important it is that we maintain compulsory vaccination? You will remember that the last legislature passed a bill doing away with compulsory vaccination and that it was vetoed by the Governor. But it should not have passed; its passage was a disgrace to a civilized state in the twentieth century. Furthermore, the last legislature made several attacks upon the medical practice act, a law which has been sustained by the Supreme Court in every essential and which is the only barrier between the incompetent charlatan and the people who know not the wise from the ignorant. The law is a good law and treats all alike. It merely says to everyone who would practice upon sick humanity, "Show us that you know enough of the make-up of the human body and its common ailments so that we may know you will do the minimum amount of harm, no matter what form of practice may seem best to you." This point, too, should be explained to those in your district who have aspirations toward the legislature, and their views on these questions should be secured before even they are nominated, if possible; certainly before election time has come and gone. Few laymen know the real facts; and so few legislators know them; there is time to explain the facts before election, but none after the representative has begun his work at Sacramento. Therefore, while it now looks as though there were plenty of time, there really is not; we should begin work at once.

TO COUNTY SECRETARIES.

This year it is particularly important that all reports of membership should be sent to the Secretary of the State Society as early in January as possible—and more important that they should be accurate. The Medical Defense feature of the State Society is extended only to those members who have their dues fully paid up, and therefore are in good standing in their county society. If a member is delinquent for three or four months, he is not in good standing during that period of time and should any act of his during that period result in a subsequent suit for malpractice it could not be defended by the State Society. It is obviously necessary that this protection must be extended only to those who are actively and positively identified with the Society and who are in good standing in it. Will the secretaries of all County Medical Societies kindly take notice of this and call the fact to the attention of their members? We shall have to keep very accurate track of all members reported, and of all whose names are not on the official annual reports; these latter will not be covered by the Medical Defense department until they are again reported as being in good standing and dues paid. This is going to add materially to the work in the office of the State Society, and County Secretaries can very greatly help by sending in accurate reports at an early date and by notifying their members of the importance of promptly paying their dues—or losing the protection offered by the State Society.

YOU CAN HELP US.

You can help the State Society and your JOURNAL, and therefore incidentally help yourself, by taking an active interest in the advertising pages of the JOURNAL. Look over the advertisements each month; see what is newly offered; use the advertising pages as a sort of directory for firms from whom you buy things or for sanatoriums to which to send patients. Other things being equal, make your purchases from those firms who help to support your JOURNAL by advertising in its pages—and let them know that you do so. All life is a matter of struggling and helping; you help your patient and he helps you to live. Some firms help your JOURNAL; give to these firms your patronage; they are all reliable or they would not be permitted to advertise in your JOURNAL. Write to advertisers for information, for literature, for catalogs, and thus find out what they have to offer and also at the same time show them that you are really taking an interest in them just as they are taking an interest in you and your JOURNAL. Will you do this? It is not much to ask of you, and it will be a great help to the JOURNAL and to the advertiser. Try writing to several advertisers every month and see if you do not think it is worth while.

EXPERIMENTS ON ANIMALS.

The "anti-vivisectionist" may possibly draw awful pictures of frightful dog agony and human brutality, etc., etc., from an article which appears in this issue from the pen of Dr. Bunnell, and based upon research work done by him in the laboratory of Dr. Crile. Never was a more clear-cut example of the value to humanity of animal experimentation. Surgery of the chest, in spite of modern improved methods, presents alarming difficulties and possibilities even to the experienced surgeon. In this present work we have suggested a valuable and simple method of preventing those disturbances of respiration and blood flow which invariably accompany any operation that requires the opening of the chest wall and the exposure of the lung to the air pressure from without. An anesthetic combined with oxygen and given at sufficient positive pressure to equalize the pressure from without has been shown, upon dogs, to be quite safe, to be simple in application, to require no elaborate operating cabinets, rooms, etc., and to keep the lung tissue in a comparatively normal condition during the operation. True, upon practical use of this method it may be found that nitrous oxide does not have the same satisfactory effect upon humans that it has upon dogs; but the chances are in favor of the method rather than against it. If it should prove to be as satisfactory as these preliminary experiments would seem to indicate, will some kind and over-zealous "anti-vivisectionist" please be good enough and let us know whether or not it is worth while to kill a few dogs in order to discover something of such great advantage to the human animal? And if the aforesaid "anti" should, perchance, have to have his chest operated upon, would he not give devout thanks to those experimenters who worked out the safety and convenience of the procedure upon dogs? And also, will he please remember that this work upon dogs *caused the dogs no pain?*

HUMAN FECES AS A CUREALL.

Through the efforts of Dr. Rupert Blue, of the Public Health and Marine Hospital Service, a practice of Chinese "Doctors," so-called, has been unearthed which for filthiness outclasses anything previously recorded. The odor of certain medicines, securely packed in bamboo stalks and consigned to certain herb specialists, attracted the attention of Customs Inspectors at San Francisco. Flies came from blocks around and when the packages were opened the stench was so terrible that large quantities of formalin were necessary before an examination was possible. Laboratory investigations have proven that these packages contained human feces, highly prized by celestial therapists for the cure of various ailments. For purposes of administration a tea or soup is made of this fecal matter, and it is said that it is a most popular remedy. There is a possibility that certain Oriental diseases may have been introduced in this way, but this has not been proven. Physicians in this state frequently see patients who have consulted Chinese "Doctors," and it would be well to acquaint them with these facts.

RABIES IN SOUTHERN CALIFORNIA.

During the past month the brains and cords of nine dogs have been sent to the State Hygienic Laboratory at Berkeley from Pasadena and Los Angeles. These animals had exhibited marked symptoms of rabies and in each case the characteristic negri bodies were found in the cerebral cortex. Inoculations into rabbits were made in eight cases and were followed by characteristic reactions, the negri bodies being demonstrated in all inoculations. This work has been done by Dr. A. R. Ward, professor of bacteriology in the University of California, assisted by Dr. Hart, whose investigations on this subject have given him an international reputation. Fortunately there have been no human cases, but the presence of the disease constitutes a most serious menace which the local health authorities fully appreciate. Dr. W. F. Snow, secretary of the State Board of Health, reports that all necessary steps have been taken for the suppression of the disease.

CHEMICAL TESTS FOR BLOOD.

The importance of the detection and biological identification of blood has for years been recognized in forensic investigations, and it is largely from this standpoint that the subject has heretofore been studied. But now that the diagnostic significance of the presence of blood, especially occult blood, has been generally recognized among clinicians fresh impetus has been given to the study of various methods by which this may be conveniently accomplished. While unaided visual inspection, microscopic examination, and other physical procedures have often yielded the necessary information; and the revelations of the precipitan test have been most interesting and attractive—workers, in view of the limitations for the applications of these methods, have usually turned to chemistry for assistance; and as a result of studies along these lines a considerable number of strictly chemical tests, many old and some new, have been suggested and employed. Experience has shown a few to be most helpful, while others have been found to be of doubtful or no value. Difficult as it is to arrive at any clear conclusions on the subject the recent critical paper of Kastle (Hygienic Laboratory Report, U. S. Public Health and Marine-Hospital Service. Bulletin No. 51) containing the results of much original investigation, is interesting and significant and constitutes a substantial contribution to the matter of which it treats.

The greater number of the chemical tests in use at the present time depend on the power of the blood to induce the oxidation of various chromogenic substances by means of different oxidizing agents of the type of hydrogen-peroxide. In such tests the blood plays the part of an oxygen-carrier. In ordinary practical work the chromogenic substances most often employed have been guaiacum, aloin, the leuco base of malachite green, benzidin, phenolphthalein, etc., and for oxdizing purposes ozonized oil of turpentine and hydrogen-peroxide are generally used. When small amounts of any one of these chromogenic substances are brought together with water and hydrogen-peroxide or ozonized oil of turpentine and a minute quantity of blood, a colored substance is produced the nature and color of which depend, of course, on the nature of the chromogenic material employed. Properly controlled, the development of such a color under these conditions indicates blood, and certainly if no color is produced it indicates its absence.

Numerous theories have been advanced to explain the reaction, but it cannot be said that the chemical reactions involved are fully understood. Schoenbein, the originator of the guaiacum test, contended that the blood acts upon peroxide and other antezonoids after the manner of platinum, in that it converts the antezonoid into an ozonid, or into a compound in which the oxygen exists in the active condition, viz: in the form of ozone, and that the ozone of the ozonoid then converts the guaiacum into a similar ozonoid compound which is blue in color. In view, however, of the work of Schuster, Deléarde and Bénoit, Kastle and Amess, and others, it has gradually been recognized that the oxygen carrying power of blood cannot be entirely due to the presence of oxidases and peroxidases, for the reason that the oxygen-carrying power persists after boiling and treatment with acids and alkalies. Indeed, it seems to persist as long as the blood-pigments are not deprived of their iron.

The whole subject of induced oxidations by means of hydrogen-peroxide has been extensively studied by Leevenhart and Kastle, and the view advanced by these investigators is that irrespective of the composition of the carrier the latter acts by first combining with the hydrogen-peroxide to form complex unstable holoxide or meloxide derivatives, which give up their oxygen to the reducing substances more easily than does the hydrogen-peroxide itself. This theory of oxygen carrying is in harmony with the more recent work of Kastle on the subject of peroxidase accelerators. According to this hypothesis, therefore, the function of the blood as an oxygen-carrier in reactions of the guaiacum type could probably be explained most simply and easily on the supposition that the iron-containing blood pigment combines with the peroxide to form a meloxide derivative, which in turn easily gives up the whole or a part of its oxygen to the chromogenic substance with the production of a dye of characteristic color.

Although the guaiacum and similar tests are now extensively employed in clinical laboratory work it has been urged that they are not reliable for the reason that a large number of substances other than blood, such as all oxidizing agents, the halogens, finely divided metals, certain salts of chromium, copper, iron, manganese, and sodium, and certain substances of animal or vegetable origin, give similar reactions. Nevertheless the prevailing opinion among those who have investigated the subject seems to be that these tests are valuable especially if they lead to negative results as proving beyond a doubt that blood is absent. On the other hand, if a positive test is obtained, care should be taken to exclude oxidases or peroxidases by boiling, and the salts of heavy metals and other oxidizing agents by chemical methods, and if possible, to subject the material under investigation to confirmative tests for blood before finally concluding that blood is present.

With reference to the delicacy of the various tests it is apparent that observers are not agreed. In a general way it may be stated that the aloin test is the least sensitive of all, the guaiacum ranking next. The benzidin and phenolphthalein tests, on the other hand, give the most delicate results, both according to Kastle having nearly the same delicacy, although he found that the latter yields a more staple and permanent color than benzidin. With the guaiacum test it is probable that blood may be detected in dilutions of 1 to 2 or 3000 although Liman and Schumm claim to have detected it in dilutions of 1 to 40,000. Using the

benzidin test Schumm detected blood diluted 1 to 200,000 times, and Ascarelli 1 to 300,000 times. With phenolphthalin even more delicate results have been obtained. Thus Deléarde and Bénoit state that they were able to detect blood at a dilution of 1 part to 1,000,000, and Kastle says that he obtained a positive result with this test at a dilution of 1 to 80,000,000. Although positive results have been obtained in high dilutions with the various tests it should be pointed out as emphasized by Kastle that testing for blood in pure aqueous solutions and testing for it in various normal and pathological secretions and excretions are quite different affairs the results of which are not comparable. For instance he has shown that urine sometimes contains substances which inhibit the test to a considerable extent.

Studying the delicacy of the phenolphthalin reaction for blood in different secretions Kastle has found that positive tests may be obtained in urine in dilutions of 26 parts in 1,000,000, an amount much smaller than could be recognized with certainty by spectroscopic or microscopic methods of examination. Blood was also demonstrated by the same test when present in the proportion of 36 to 1,000,000 of saliva, 1 to 25,000 of milk, 1 to 1750 of gastric contents, etc. In short, this observer regards the phenolphthalin test, notwithstanding the unfavorable opinion of Pozzi-Escat, as one of great practical utility. After having experimented with many varied substances he concludes that by no other methods, unless it may possibly be the spectroscopic or precipitin tests, could the different materials employed have been examined with such conclusive results in the time actually consumed in making the tests with phenolphthalin.

THE TREATMENT OF WOUNDS.

In the report of the Twenty-first Congress of French Surgeons, Dupuy, of Paris, publishes an interesting account of his experiences with the electric light in the treatment of large wound surfaces which have proven rebellious to other methods. He induces hyperemia by employing a thirty-candle-power lamp placed ten centimeters from the wound. As soon as a serous exudate appears the lamp is removed to twenty centimeters and when a thin plaque is formed the distance is increased to fifty centimeters and kept in this position for five to ten minutes. This mode of treatment has given excellent results but he emphasizes the dangers of using a higher candle-power, of prolonging the seance and maintaining the lamp too near the tissues.

The method appeals to one as being rational because, like the extensive work of Bier, it is based upon scientific principles. It is of interest to trace the important advances which have been made in the treatment of wounds but it must be admitted that many surgeons have clung to old methods years after the great thinkers have pointed out their fallacies. It takes courage and strong conviction to protest against an established custom; there are few who, though they might possess the necessary insight, would have the temerity to do so. Ambroise Pare was one of these. In his "Journeys in Diverse Places" he tells how, after the battle of Turin, 1537, when he was but twenty-seven years old, he was called upon to dress wounds on the field for the first time. He found it the custom of other surgeons to pour boiling oil upon fresh wounds and he proceeded, after some hesitation, to do likewise. Fortunately his supply of oil ran out before he had completed his dressings. "That night I could not sleep," he says, "fearing some default in not cauterizing and that I should find the wounded on whom I had not used the said oil dead of the poison of their wounds." He rose very early the next morning and found that those on whom the oil had not been used were doing well while those who had received the treatment were feverish, with great pain and swelling. "So I resolved," he adds, "never more to burn thus cruelly poor men with gunshot wounds."

The result of the use of boiling oil was tissue necrosis. The results of the employment of strong antiseptic agents on wound surfaces are the same. The difference is only one of degree. Halsted long ago made a violent protest against the use of antiseptics. He states, "We have ascertained from our experiments on dogs that irrigation with solutions of corrosive sublimate as weak as one in ten thousand produces a superficial necrosis." (Johns Hopkins Hospital Reports, Vol. II.) We know the value of his words to-day and yet it has taken nearly two decades for practitioners to appreciate them.

Even when the great Senn delivered the Lane Lectures at Cooper Medical College in 1899 he devoted much time to a discussion of various antiseptics. Textbooks still contain references to such treatment and many follow blindly these set methods of procedure. We pride ourselves on being free from empiricism and yet this routine, unthinking practice furnishes no better example. It is high time that deep cut or denuded and abraded surfaces should receive the same care and discrimination, the same thought and painstaking treatment, as now characterizes other fields of surgery.

ORIGINAL ARTICLES

LAMBOTTE METHOD.*

By WM. LEMOYNE WILLS, M. D., Los Angeles.

The subject to which I ask your attention is the logical surgical treatment of fractures, both recent and old, simple and compound, by the *Open Method,* with an absolutely certain retention apparatus, designed and used for years by Dr. Albin Lambotte of Antwerp, Belgium.

The cutting down on ununited fractures and wiring the ends of bone, has been the recognized treatment for years, in many cases obtaining good results, but in many instances the wire causes trouble and a sinus forms and the wire has to be removed after callus has formed, etc. Usually, however, there is a pointing of bone and loss of length. Some surgeons use metal or iron pegs or screws, and other good surgeons use staples.

At the 1908 State Society meeting, my friend, Dr. Thomas W. Huntington of San Francisco, presented a paper on the treatment of fractures of the femur, by the use of steel staples. I had at that time one case to report in which I had used the Lambotte apparatus, but was too late for the programme and in the discussion of Dr. Huntington's paper, showed the Lambotte fixateur, and contrasted it with Dr. Huntington's smaller wound and method.

Advantages of open method are:

1. Absolute knowledge as to character of fracture.
2. Ability to adjust and maintain correct apposition.
3. No splint needed and daily or hourly inspection possible.
4. Less painful, no traction nor counter traction necessary.
5. Shortens convalescence and enables patient to be put in wheel chair and go in open air in ten days. Hence it is an ambulatory method.
6. *All* foreign substances removed.
7. Enables surgeon to use massage at any time, especially useful when near joint.
8. Minimum loss of length or change of angle.
9. Applicable to all fractures, recent or old, simple or compound of the long bones.
10. Simply makes all simple fractures compound.

When once the two methods are placed in contrast for old or ununited fractures of long bones, the chief differences are (for staple or wire or peg method of maintaining fragments in apposition) the smaller incision and the retention in the bone of wire or peg, which may later on cause trouble, whereas, with Lambotte apparatus, a somewhat longer incision, with the placement of three or four, or even five or six drills, screwed into the bone; skin and muscle closed about them, and after from five to seven weeks the hand drill is placed on the drills, action reversed, and they are withdrawn and the holes in bone in which they were, fill up and case is closed, no foreign substance remaining in the bone or wound.

The whole matter resolves itself into the ability of the surgeon to make a larger aseptic wound and to keep it so.

Another great advantage, second only to the certainty and variety of fracture, and its replacement, and the retention of ends in absolute apposition, is that the surgeon can see and inspect the wound and part every day and use massage and not be hampered by any more or less comfortable splint. All that is necessary is a pillow or two, and two sand bags.

No extension or counter extension necessary, as the bar clamped onto the arms of the drills makes extension and retains fragments immovably in apposition; in other words, bridges the (fracture) gap and makes the reinforced bone, the splint.

One of the most frequent causes of non-union is the interposition of a muscular band or fibre, or sometimes a nerve or tendon which effectually prevents union.

By the open method this is prevented and one can see the actual condition and remedy it. The X-Ray has its place and should be used first.

Granted that it is proper to cut down on an old, faulty, or ununited fracture and use such a retention apparatus, it is only a step farther to adopt same method in recent simple fractures. It is thought to be unnecessary and too radical by the same kind of doctors, as would trust to nature, not to tear a perineum, when at tearing point rather than do an episiotomy with a sharp scissors and sew up a wound of election and keep the perineal centre in-

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

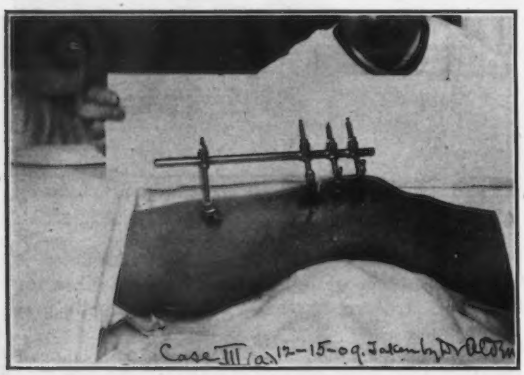
tact; which once injured is never repaired except by skin and scar tissue repair.

The chief objection is that this *open method* is unnecessary, over-radical, and dangerous. I make no claim for its habitual use, but think it is much safer to know exactly the conditions, kind of fracture, and be able to extend, lever fragments into place, otherwise impossible of perfect adjustment, than to guess about it and have (as a good result) from one-half to one and one-half inches of shortening. While the timidity to do a radical operation would deter many, such a method in hands of a competent, clean surgeon, would prevent many damage suits and obtain better results—well nigh ideal.

I have had, to date, seven cases which I will report to you—not enough you will say to base an opinion upon. I grant you so. Two were old, ends which had slipped past and large calluses enclosed ends of bones which never would have had a good union. The third case was thirty hours old, a fracture into condyles of right femur, joint capsule torn, and lower fragment tipped backward by gastrocnemii heads and drawn up behind shaft. Apparatus applied, wound healed, and man out in chair in ten days and no splint used except a double inclined plane for eight hours.

I base my assertions largely on Lambotte's statistics. Up to 1907, when his book was published, he had treated 186 cases of all kinds of fractures by this *open method* and apparatus with success, and but one death caused by internal injuries sustained at the time of fractured bone.

I saw this surgeon demonstrate this method on cadaver at the Brussels International Surgical Congress, 1905, and went to Antwerp next day to see several such convalescent cases in the Stuyvensberg Hospital, and afterwards bought apparatus in Paris.

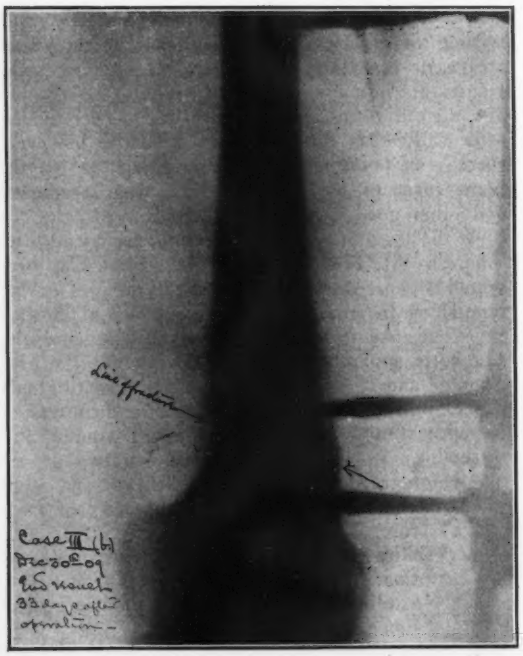


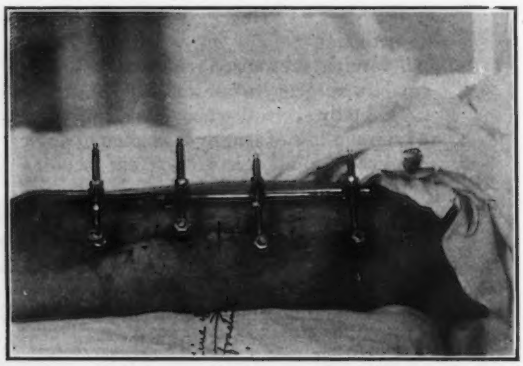
Antwerp is one of the greatest ports of Europe, so that the number and variety of fractures is great, and Lambotte has a wealth of material for the display of his resourcefulness and genius. I think this the best method to date. You will pardon me if I seem over-enthusiastic.

After waiting two years for a suitable case, I went to Alameda County Hospital and placed it on a Los Angeles carpenter with ununited fracture of middle of right femur.

I have had to date—April 20th, 1909—seven cases, which I will summarize as follows:

Three un-united cases, old with large calluses, with ends overlapping from ½ to 1½ inches, as shown by "X" Ray-Cases one, two and six. Case three, fracture of right femur (kick of horse) three inches above knee joint, extending into external condyle, joint capsule torn open. Operated on





thirty hours after injury. Tissues much bruised and surcharged with blood. Operated on by "Lambotte" method at Good Samaritan Hospital. Patient out in chair in ten days, apparatus off in thirty-four days and walking with crutches in six weeks. Ideal result, no shortening, was treated in private hospital; convalescence interrupted, never any temperature nor sepsis. "X" Rays shown.

Cases four, five, six and seven were treated in Surgical ward of County Hospital, between January 1st and April 20th. Of these cases, the fourth had been injured two weeks before I saw him, with no treatment at all given him. Man fell from third story of building and fractured right femur in middle third and seriously damaged muscles, which almost immediately broke down and suppurated. The suppuration prevented union of the bone and I was obliged to remove the "Lambotte" apparatus and reapply it. Union proceeded very slowly but surely.

Of these four cases, two had some suppuration and two did not. One case absolutely perfect in whole course of repair and an ideal result. Absolutely no shortening and perfect functional result.

In the two cases which had infection, the soft parts were very seriously injured by the vulnerating body, wagon wheel and fall respectively. In other two, not so.

Case five was perfect throughout, apparatus off in forty-three days (slow callus formation) absolutely aseptic and was walking on leg in one week after "Lambotte" apparatus was taken off.

Four pictures show case V.

Case six, un-united fracture of right leg, made good repair.

Case seven, run over by wagon wheel of lumber wagon. First two weeks ideal, then owing to pain and too much moving in bed, set up trouble. Some sepsis, but progressing favorably at close of report.

Discussion.

Dr. T. W. Huntington: As work done along this line by me has been mentioned by the reader, I will say a word with regard to points which I consider essential in the operative treatment of recent fractures, especially of the femur. It is manifest

that the highest requirements of operative fracture treatment is absolute asepsis. I must protest against the statement of the reader that "a little pus does not amount to much." It is not possible that such doctrine can be maintained; and furthermore, we all know how grave conditions ensue upon slight foci of infection. If the surgeon cannot afford almost absolute immunity from infection in these cases, the propriety of operative treatment of fracture will be left in serious doubt. The method advocated by the reader seems to possess essential technical faults. Several avenues of ingress for infection are left open for from ten days to three weeks. This, of itself, is sufficient reason for discarding the Lambotte clamp. The author reports twenty-five per cent of infections in his operative wounds, a record which certainly needs no comment. In operative cases, I prefer, for myself, the steel staple which permits of perfect wound closure and ideal wound healing.

Dr. H. M. Sherman, S. F.: I have had so many conversations with Dr. Wills about this method, that it seems like going over old ground. I do not see how it is possible to put into the femur the apparatus which Dr. Wills has presented, without getting infection of the drill track in every one of the cases. I stated, when reporting my method of treating hip dislocations, that I always got a little sinus in the track of the nail. Based on that experience it seems to me that Dr. Wills should always get an infected sinus. My drill went into the cancellous tissue where the granulation tissue builds up rapidly. I have had no accident, but in the next case it may prove to be the vulnerable point. This drill of Dr. Wills goes into the cortex of the shaft and it must cause necrosis; if it penetrates the medulla there is osteomyelitis at hand. I congratulate Dr. Wills upon his result which he shows us. Nothing could be better, but I should prefer myself to have a staple in my femur rather than this apparatus.

Dr. A. S. Lobingier, L. A.: I would like to call attention to the fact that the Lambotte clamp is an improvement upon the clamp devised and used by Dr. Clayton Parkhill, 17 years ago, at which time he reported nine cases operated on without sepsis. I saw a number of his cases and no infection had occurred in any of them. I think his report was made before the American Surgical Association. I think the doctor meant that he had had no more infection than Dr. Sherman referred to,—a trifling discharge from the post holes which curetting once and syringing out would clear up. I have had five cases which I operated with the Parkhill clamp. I do not consider it as good as the Lambotte clamp Dr. Wills. But I had no infection in the five cases beyond what I have already referred to. There was no exuding of pus, only a little serous discharge which one curetting and syringing out cleared up within three or four days. I cannot believe this is not a useful apparatus. I believe that we shall find in some cases that it is better than the staple or the plate and that it is of value and should not be condemned.

Dr. Wills, closing: Suppose you do have a little sinus leading down to the bone, suppose you do have a little softening and chipping away of the periosteum, you do not have a temperature and the case goes on to recovery. In two cases I had abscess simply because a lumber wagon wheel went over the thigh, seriously bruising the muscular tissue and the manipulation caused a certain amount of suppuration. In one case I had to put the drill on again. I understand Dr. Huntington's position in this matter. He is a teacher and he can not teach his students not to mind a little pus. But in these cases if you do not have temperature you have no shortening and shortening is the end result. Dr. Huntington saw one of these cases and it happened to be a man who had a sinus down to the bone because the man did not do as he was told, but he went to San Francisco and got drunk. I had another man who had a sinus because he walked and left the treatment and our observation. I am not saying that this method is perfect but I do claim that if I had my femur broken to-morrow I would have this apparatus on it. The point of the drill does go into the medullary cavity of course, but I deny that you get an osteomyelitis.

THE PROBLEM PRESENTED BY THE TUBERCULOUS RAILWAY EMPLOYEE.

By ROBERT A. PEERS, M. D., Colfax.*

I do not know when or where the first Hospital Association for the care of sick and injured railway employees was formed, nor is it relevant to the subject-matter of the paper I have to present to you this afternoon. It is, however, pertinent to say that to-day practically every corporation, railways, steamship companies, steel plants, mining and lumbering companies, has established for the care of its sick and injured a hospital or benefit association, whereby each member for a certain stated monthly sum, subtracted from the wages by the corporation, is guaranteed in case of illness or injury the necessary nursing and medical attention with accommodation in the Hospitals of the company without further expense. That this co-operative plan for the care of the unfortunate employee is of great benefit to the employee himself is obvious. A large percentage of the men working for a monthly salary either cannot or do not save for the proverbial "rainy day"; and to these the provision of hospital accommodations, skilled nursing, and scientific professional services not only solves a problem in economics but also in a large number of cases means the actual preservation of human life. In the medical and hospital service furnished the railway employee is to be seen, perhaps, this plan developed in the most thorough manner. The hospitals furnished by the railway companies will compare favorably in appointments and in results obtained with any others; while the personnel of the hospital staff includes surgeons and men skilled in internal medicine who are the equal of those connected with any other institution. This is due to many causes; partly to the large number of men employed in connection with the railway service, many thousands of men often being employed by one company, thereby furnishing the association with large funds for hospital purposes; partly to the permanence of railroads, which are not short-lived like many mining and lumbering companies which depend for existence upon a limited amount of ore or a certain acreage of forest land, but are lasting institutions which once established are practically never abandoned; and also to an appreciable degree to the liberality of the railroad company itself which exhibits in many other ways, such as the establishment of reading rooms and club rooms, its practical interest in its employees.

In order that the benefits provided by the Hos-

*Medical Director, Colfax School for the Tuberculous.

pital Association may not be furnished to those not entitled to treatment certain regulations are provided designating those who are not entitled to any benefits, and those who are entitled to professional services but not to hospital accommodations. In the second class is to be found the tuberculous railway employee. That this was a wise provision when cases of early diagnosis were rare, and where only far advanced cases were recognized or perhaps it is better to say when patients suffering from tuberculosis did not quit work until in a very far advanced stage, thus bringing about a condition where patients in the most dangerous stages became charges of the Hospital Association; that such a provision in the case of the tuberculous railway employee was wise is not to be doubted. But that to-day when, by improved methods of diagnosis and more thorough knowledge of the disease, the existence of tuberculosis can be confidently diagnosed before the presence of tubercle bacilli can be demonstrated in the sputum, or even before there is either cough or sputum, that there can be necessity, from the standpoint of danger of infection, for excluding cases of early tuberculosis is no longer tenable, and even in moderately advanced cases, where patients exercise the proper amount of care in coughing and in the disposal of the sputum, the danger becomes practically nil.

The difficulty of determining the date of infection, many cases lying dormant for years after infection before developing an activity sufficient to seriously impair the employee's health and to cause him to seek treatment, has also in all probability been a determining factor in the exclusion of these cases. Bearing these circumstances in mind the patient could be excluded from benefits because he is suffering from a chronic disease contracted before he entered the service of the railway companies. Doubtless also the chronicity of tuberculosis, especially those fibroid cases where patients are incapacited for years, militated against the acceptance of these cases.

While there may be doubt as to the advisability of allowing the tuberculous railway employee admission to the company's hospital, there is no doubt that there is no class of cases in which hospital care is more indicated, or in which the response to hospital treatment is more marked, than in cases of early tuberculosis. The most common predisposing cause of tuberculosis is overwork or overplay, or a combination of both,—that is, anything that puts too great a strain upon the human organism without sufficient compensating rest. And on the other hand the most important single factor in the treatment of tuberculosis is rest. To this statement I do not make an exception even in favor of fresh air. Rest in bed during fever or where there is much emaciation, and rest with carefully graduated forms of exercise where there is no fever, is without doubt the measure of treatment par excellence. Granted an early diagnosis, that is, an incipient or only moderately advanced case of tuberculosis, and the possibility of three months' rest in a hospital, with the training that necessarily accompanies those three months' rest, and the majority of such cases will be given a start that will end in recovery. Denied the privilege of hospital advantages and being forced to bear the financial burden himself, the patient suffering from tuberculosis in the curable stages is prone to postpone treatment or else to temporize with short vacations until he passes from the easily curable to the incurable stage, or at least to a point where years are required to repair the damage done.

With the idea in view of obtaining statistics as to the percentage of railway employees who contract tuberculosis while in the employ of the companies I sent a circular letter to each of the Chief Surgeons of our western railways in which the question was asked, "If you can secure the information without too much trouble, would you inform me what percentage of employees working for your company contracts tuberculosis or shows evidence of tuberculosis infection while in the employ of your company?" The replies received indicated that there were no statistics bearing on the subject from which an estimate could be made. I have been unable in any literature available to me to secure tables bearing on the mortality or morbidity from tuberculosis among railway employees. Neither could I obtain any figures from the National Association for the Study and Prevention of Tuberculosis. That it exists in about the same proportion as among persons holding life insurance policies, and who have to come up to a physical standard equal to that required of the applicant for employment in the railway service, is probable. The frequent deaths from tuberculosis among policy holders have induced the insurance companies to consider the question as to the advisability of establishing sanatoria for the arrest and cure of the disease when contracted by individuals holding policies—it being considered cheaper to cure the patient than it is to pay the amount of the policy because of the death of the holder. Personally, in a practice where I see a limited number of employees professionally each month, I meet with several cases during the year.

Question II of the circular letter asked, "What special provision, if any, is made by your company to care for the employee who falls a victim to tuberculosis?" Special provision was being made by only one company and that one had tents provided for its tuberculous employees. To the third question, "Do your hospitals admit and care for employees suffering from tuberculosis?" the universal answer was "No."

The fourth question was divided and considered under three headings:

(a) Do you think special provision could be made for tuberculous employees out of the available hospital funds?

(b) If not, do you think the employees would submit to a special hospital fee to be taken from their monthly wages—such fee to be used solely for the care of employees who contract tuberculosis while in the employ of the company?

(c) How many employees would be affected in case the special hospital fee plan was feasible? The

replies to (c) may be disregarded as they were not complete. The replies to questions (a) and (b) indicated rather that the matter had probably never been previously considered and that the writers were not prepared to make positive statements. The general opinion appeared to be, however, that it would be more practicable to use the available hospital funds than to make an additional tax for the purpose of securing funds to care for tuberculous patients.

The desirability of some place where patients could be received and maintained from the hospital funds is very well illustrated in the following case: Patient T. S., occupation, fireman on ferryboat; was referred to me June 21, 1908. Gave history of having "caught cold" in Nov., 1907. After three days raised blood. One month later had quite profuse hemorrhage. Because of lack of funds patient continued at work until two or three weeks ago. Has never lost cough—which is worse in morning. Examination showed tuberculous looking individual with pulse 120, temperature 99.8—weight 143½. Examination of chest disclosed tubercular infiltration of both lobes of left lung and right upper lobe. Patient was given advice that he should be in some institution where he could have absolute rest in bed and appropriate nursing and medical services. No funds being available for this purpose he was placed in a boarding house with instructions as to rest, diet, and fresh air, where even under unsatisfactory conditions his temperature dropped to normal, his cough and expectoration decreased and his weight increased. Denys B. F. was administered as soon as the temperature dropped and the improvement became much more marked and more rapid. He practically lost his cough, his weight increased to 158½—a gain of fifteen pounds—when the brother who was furnishing the funds lost a forefinger and the patient being deprived of funds was compelled to return to work. In July of this year he returned to Colfax with a history of having "caught cold" in May when the symptoms returned with renewed vigor. When I saw him in July he weighed 130 lbs., had pulse of 144, temperature 103.4, and was too weak to stand a physical examination. Upon my advice he returned home as he evidently had but a short time to live. In my mind there is little doubt that had this patient been able to spend three months in a properly conducted sanatorium, with the opportunity to learn the lesson of right living, when he was first taken ill in Nov., 1907, and then had he taken three or four months more, as he could have done before his brother's accident, in completing the arrest, he would probably to-day be living and well.

The number of cases of tuberculosis is so great that there will probably never be sanatoria enough to hold them all; and it is probable that should any Hospital Association attempt to take charge of every tuberculous employee from the inception of the disease until the recovery or death of the patient that the task would overtax both the available funds and the accommodations. If, however, the examination of the chests of applicants for employment, taken with a rigid inquiry into the past history, be made most thoroughly, and no cases accepted for hospital treatment that have not been in the employ of the company at least four years, and only incipient cases be taken, it might be possible to look after those cases which promise greatest chance for recovery. By limiting the time of any one patient to three months many more patients could be accommodated than without such a time limit. To recapitulate—make the first examination most rigid, with a tuberculin test if deemed wise. This would exclude as large a percentage as possible of tuberculous individuals. By furnishing hospital accommodations only to those who have been in the employ of the company at least four years, many of those with latent tuberculosis at the time of entering the service would be excluded and the possibility of getting only those who contracted the disease while in the employ of the company would be greater. By accepting only incipient cases the Association would provide for those where the chances of recovery are great and the employee developing a cough would be stimulated to seek advice early. In this way more cases would be detected before they become far advanced, and those patients who might endanger fellow employees would be detected and given proper advice. By limiting the length of stay in an institution to three months, ample time would be given for the arrest of the majority of incipient cases and for the patients to become thoroughly educated in the methods of combating the disease. Again by accepting only incipient cases such patients would require less attention. Their quarters could be in cottages or in open air pavilions and these could be used in any climate for incipient cases.

In addition to these measures there might be a dispensary for cases not suitable or eligible for sanatorium treatment and pamphlets telling of the nature of tuberculosis, its early symptoms, the things necessary to produce a cure, the precautions to be taken to prevent its spread, could be distributed both to the sick and to the well. There might even be an Association for the Study and Prevention of Tuberculosis among Railway Employees.

All these things, however, are details that would require much time and thought to thoroughly work out. I am not a statistician, full of figures as to the percentage of deaths among employees or with estimates as to the cost of maintaining any one patient for a given length of time. I am not conversant with the amount of funds required for such work nor with the manner in which such funds can best be collected. I do not know whether this subject will be of sufficient interest to stimulate any action towards the solving of the problem presented by the tuberculous railway employee. I do know, however, that the war against tuberculosis is growing and that it is being approached and attacked from all sides. It seemed to me that the railway companies whose hospital associations are doing a work along other lines that is worthy of congratulation and of our pride are, perhaps, not taking the active part that they will later on assume. And finally I know

that as district surgeon I have seen a young man doomed to die at the age of 26 years of a preventable and curable disease because he could not receive the right treatment at the right time. It was the hope that this question might receive more consideration than it has in the past and that some means might be adopted to furnish hospital care for the incipient cases of tuberculosis among railway employees that caused me to present to you the problem of the tuberculous railway employee.

Discussion.

Dr. Philip King Brown, San Francisco, discussing:

I wish to call attention to one statement and the significance it has in the steps taken toward solution of this problem. There are not enough sanatoria in the world to take care of the early cases of tuberculosis. Unless we can meet this problem without their having to go into a sanatoria we are not going to meet it at all. The chief value of the sanitoria is the graduating of large numbers of people instructed in the proper way of living, ready to demonstrate that knowledge in the districts from which they came and therefore making effective the work which they learned. Apart from that it is not an economic way to handle the thing unless we can put the sanatoria on a simpler basis. It costs the man too much money, putting him under expenses in most cases quite as great as he would earn and enforcing a burden which he cannot meet. As a suggestion toward the solution of this problem I will call attention to the tuberculosis class method of handling patients, a method under operation for some months in this town with a considerable degree of success. It applies to the man employed provided he can get away from his work. We have selected out of our tuberculosis clinic in the San Francisco Polyclinic, practically 100 patients in the last ten months of incipient cases and have put them into a class. I want to speak of it because if tuberculosis is extensive enough for us to consider it a weighty problem it ought to be tried in the shops and factories and a great deal could be done toward making the conditions better than they are. These cases in the class meet regularly for a comparison of results obtained during the week, they are weighed by the nurse and the temperatures are taken, the number of hours they have been able to spend out of doors and facility with which they sleep out of doors, etc. are all made a matter of daily record. It is my experience repeated many times that the best effort you can put behind a person sleeping out of doors has but little effect in comparison to five minutes talk with one tuberculosis patient who has already slept out of doors. Put them next to this patient and within a few days you will have no trouble with the case in taking to the out-of-door life. In this class we have been able to get results in getting 25 people to sleep out of doors in a way never accomplished before, we have in 4 or 5 months graduated about 4 members of a class who have gone back to hard work without having any return of their symptoms. We are trying to show that you can treat tuberculosis in a class where it is conducted successfully and unless we can take the people in this way the problem is so big that we cannot expect to cure them. I believe in the sanatorium, I believe in putting incurables into the sanatoria and I believe in giving a person who wants to learn the best possible opportunity he can get and he can get it in the sanatoria where he cannot get it anywhere else. Many a young fellow has overcome a suspicious area in the lung, certainly tuberculous because he responds to the tuberculin injections, and has been able to go on with his work without really ever feeling that he has definitely consumption, yet there is no doubt that he has it and that he has been practically cured of the trouble without being sidetracked from his work at all.

Dr. Ernest M. Keys, Alameda, discussing:

The different States of the Union and the Nation at large have spent millions of dollars every year in an effort to cure hog cholera and anthrax diseases in the animal but until you can make our legislators believe that the human being is of equal value to the hog or the cow you will never be able to wipe out tuberculosis. I think the only way to act is to go to the legislators and explain to them that the human being is of equal importance to any animal food and that if it is worth while to appropriate money to wipe out animal diseases it is worth while to appropriate money to prevent and cure diseases in the human being. There is no reason why money cannot be appropriated so that these men need not lose their lives and that is the only way to handle tuberculosis.

Dr. S. E. Pinninger, Lovelock, discussing:

It seems to me that we should act upon the suggestions presented in this paper. The subject is very important and these early cases of tuberculosis should be attended to. It is no use to read papers on this subject; we should act.

Dr. R. A. Peers, closing discussion:

I am very glad there has been some discussion stimulated and if it will only help to solve the problem a little I will feel repaid. As Dr. Brown stated it would be impossible to place all of these men in sanatoria and very frequently in the incipient cases by using this plan of which Dr. Brown has spoken which I believe originated with Pratt of Boston, a great many cases could be treated successfully and at the same time kept at their work. But if they could be taken into a pavilion it would take a large part off of the great problem. As Dr. Keys stated with regard to the money spent on protecting animals, the hog and the cow, the money spent to kill pear blight, etc., if we could only stimulate the legislators to spend more money to fight tuberculosis it would be a great help.

THE USE OF NITROUS OXIDE AND OXYGEN TO MAINTAIN ANESTHESIA AND POSITIVE PRESSURE FOR THORACIC SURGERY.

By STERLING BUNNELL, M. D., San Francisco.

In presenting the following, no claim is yet made for its practical value and until it has been worked out more fully it must rest merely as a suggestion.

Physiologically positive and negative pressure apparatuses are equally satisfactory for allowing respiration to continue when the chest is open, but the positive pressure apparatus has the advantage of simplicity and portability. Nitrous oxide with oxygen has some decided advantages over ether as an anesthetic for this work, and moreover eliminates the necessity of a pump.

The expansion of the nitrous oxide and oxygen as they are allowed to escape from their storage cylinders furnishes the positive pressure. The mixed gases are delivered into a mask and can escape only when they are under sufficient pressure either to pass out through a tube that projects a certain depth in water or else to force open an exit valve that is closed by a spring set at the desired pressure. In these experiments the tube in water was used, but a simpler device can be made to fasten to the mask of the Teter gas machine, so that by adjusting

its spring any desired pressure may be applied to the valve.

Advantages.

(1) It is not necessary to remove mask during operation.

(a) Mucus does not collect in throat.

(b) Tongue does not fall back as it does with ether.

(c) Patient rarely vomits.

(2) The only special apparatus needed is either the spring device to apply pressure to the valve in the mask or a pressure bottle and mask. No cabinet or electric, hand or water power pump is needed.

(3) Compared with ether there is little or no shock from gas, and immunity against infection is not decreased to the same extent (Crile—personal communication).

(4) No pulmonary irritation from nitrous oxide.

(5) Actual cautery may be used on ends of bronchial tubes, as N_2O is not inflammable.

Disadvantages.

(1) Nitrous oxide and oxygen are expensive (about $6.00 an hour, or $3.00 an hour with generator in building).

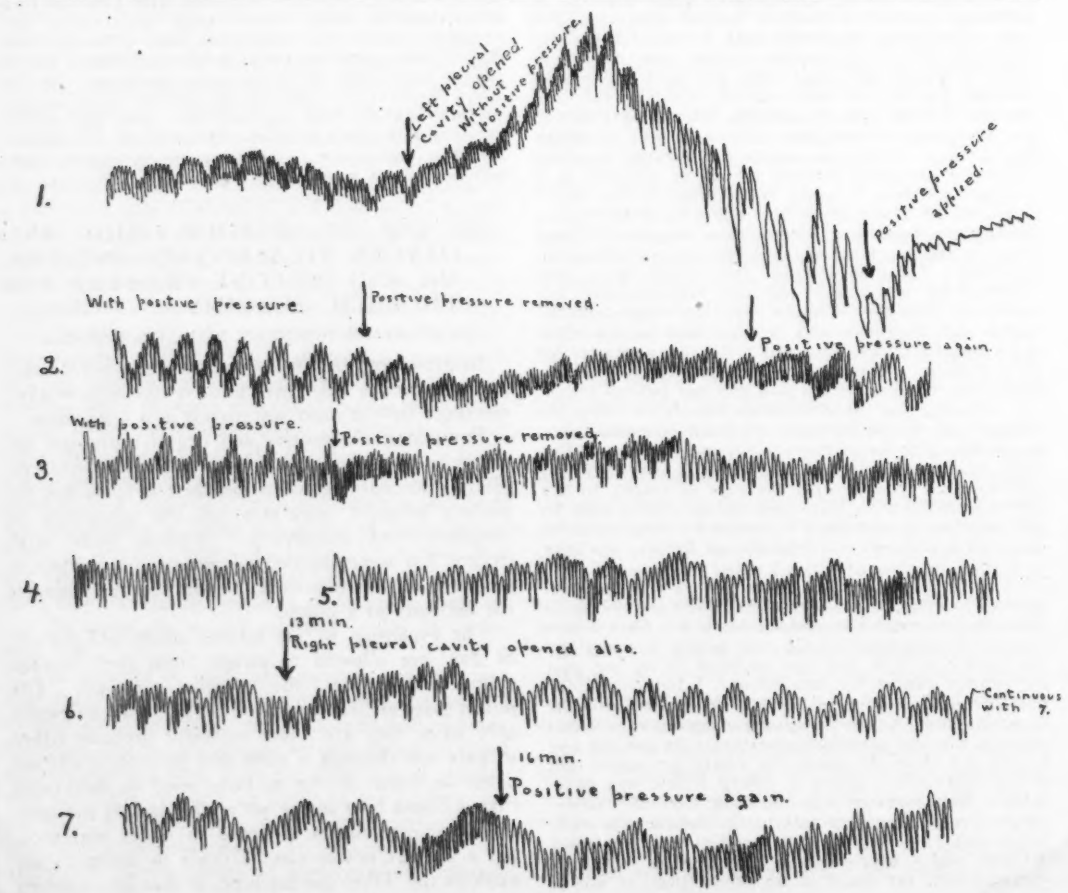
(2) There is often a faint cyanotic tinge with this anesthetic, and, as a very few patients with weak myocardium have died under nitrous oxide and oxygen anesthesia, this extra work of the heart to compensate for the cyanosis in a patient of lessened lung capacity may lead to dilatation.

(3) The flow of gas is not as constant as that of air from a rotary pump, although the pressure remains constant so long as sufficient gas is flowing.

Nitrous oxide can be made in a generator in the hospital and stored under 100 lbs. pressure. It can be piped to the operating room and by a regulator be discharged at any pressure desired and with a constant rate of flow. Such a plant is in St. Luke's Hospital, Cleveland.

Through the exceeding courtesy of Dr. Crile in allowing me to work in his laboratory and helped by suggestions from him, I was enabled to test the method in the following experiments on dogs:

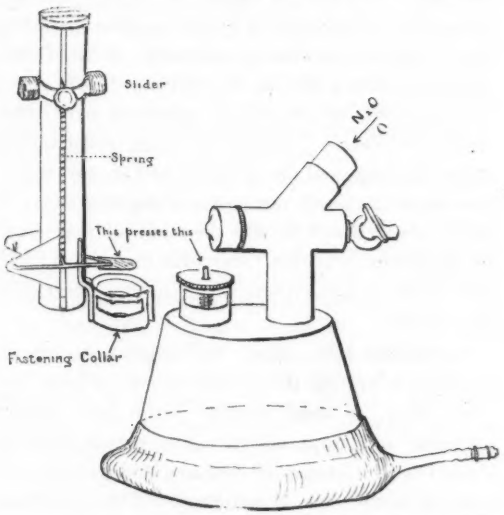
Experiment 1.—Condition alternated between that of cyanosis and that of lack of anesthesia, as it is difficult to keep dogs anethetized with N_2O. Used pressure of 9 cm. of water and lungs remained inflated sufficiently for respiration, but were not quite flush with the chest wall. The supply of oxygen gave out, so the dog died.



Conclusion.—Morphin gr. ¼ should be given previously in dogs to help maintain anesthesia. A longer water pressure tube should be used to compensate for leakage.

In the other experiments these two modifications were used, and there was then no difficulty to either keep the dog anesthetized or to keep the lungs sufficiently inflated.

Experiment 2.—Gave 6% O. Cyanosis appeared once only. Lungs kept inflated sufficiently and dog breathed naturally (except when a clamp came off the open bronchus and both lungs collapsed till the bronchus was closed). The inflation was very steady. Once, when the pressure tube kinked, the lung bulged through the incision. Opened both pleural cavities with no ill effect. Kept chest open one-half hour. Resected a lobe.



Conclusion. — Apparatus worked satisfactorily. Dog made a good recovery and before he was killed, which was four days after the operation, he was as lively as the well dogs.

Autopsy.—No infection. Pleural cavity clean. Remaining part of lung of normal appearance. Middle lobe lightly adherent to costal pleura at line of incision. Parietal pleura smoothed over so no sutures were apparent. Stump of excised lobe smooth and sealed over so that it was hardly noticeable.

Experiment 3. Resected a lobe of left lung. Machine worked perfectly. Lung kept steadily and sufficiently inflated in each inspiration and the degree of inflation was easily controlled. No trouble to keep dog anesthetized. Breathing was natural.

In twenty-four hours the dog was running about with the other dogs, frisky and happy.

Conclusion. — Apparatus worked satisfactorily. Dog was killed three days after operation.

Autopsy.—Incision clean and healing well. Costal pleura smoothed over. No adhesions of lungs. Two remaining lobes in good condition. Chest cavity clean. Root of excised lung sealed over smoothly.

Experiment 4.—A non-recovery experiment done without asepsis. Apparatus worked perfectly and was at all times under perfect control. Any desired degree of inflation could be maintained. Mediastinum was broken through with no ill effects, and the chest wall was removed from one side, entirely exposing thoracic contents. Size of lungs changed in respiration to only a small extent, but no cyanosis occurred. Pericardium was also spread open without ill effect. Stomach became inflated, but the gas could be expressed through the mouth.

Conclusion. — Apparatus worked satisfactorily with one side of chest wall removed and both pleural cavities and pericardial sac open.

Experiment 5.—Tracings were taken of the carotid pulse, using the positive nitrous oxide and oxygen apparatus. Chest cavity was kept open for one hour and fifty-seven minutes. Experiment was done without asepsis, so the dog was killed next day.

Tracings show the effect of opening the left pleural cavity without using positive pressure. After an initial rise in which the pulse was quickened and respiration deepened, the blood pressure dropped, pulse became slow and of great amplitude, and respirations slowed. Positive pressure was then applied with immediate improvement.

Temporarily removing positive pressure (left pleural cavity open), the movements of the chest at once became labored and of great amplitude, and lung collapsed from chest wall. Respiratory movements were but feebly transmitted to pulse tracing, and hence had little effect on return of blood to the heart from the big veins.

Removing positive pressure for a long time, the left pleural cavity being kept open for thirteen minutes without positive pressure; although the dog seemed to hold his own, the tracings show a progressive slowing of the pulse with an increase in its volume. (vagus pulse.) The chest wall made excursions of great amplitude, as the cyanotic dog tried in vain to fill his lungs. They remained almost collapsed. These excessive movements were not transmitted to the tracing, as with the chest open they could not affect the pressure of the blood in the great vessels.

After thirteen minutes the mediastinum was broken through, thus opening the right pleural cavity also. The pulse became still slower. Respirations became progressively slower and extremely labored. Dog became cyanotic and gasped his hardest for breath. In three minutes respiration almost ceased in some last spasmodic efforts, and the pulse quickened. To save the dog, positive pressure was resumed and he soon breathed naturally again.

By this time the dog's stomach was much inflated. Condition of dog at end of operation was good.

Conclusion.—Chest may be kept open for at least one hour and fifty-seven minutes with N_2O and O with positive pressure without cardiac or respiratory embarrassment. Without positive pressure the first

opening of the chest is a shock, but dog can live at least sixteen minutes without it and with left (smaller than right) pleural cavity open, but is cyanotic, has a vagus pulse and is in such respiratory distress that he struggles strenuously for breath. With both pleural cavities open, dog was dying after three minutes, but positive pressure restored him to comfortable breathing.

CONSERVATIVE TREATMENT OF TUBERCULOSIS OF THE GENITO-URINARY ORGANS.

By E. G. McCONNELL, M. D., San Francisco.

The first question which presents itself is where and how does the primary infection take place? In the majority of cases, the kidney seems to be the site of infection. The bladder, epididimis and testicle becoming involved by a descending infection, or through the blood. The recent work of Rosenberg seemed to point toward the latter channel. Frankenheimer of San Francisco has demonstrated tubercle bacilli in the blood in a number of his own and my cases, but as these demonstrations have not been verified by the inoculation of pigs, I simply mention it, and trust he will be able to give us a detailed account of his work later.

You often find cases where the first manifestation seems to appear in the epididimis, another where the first symptoms are frequent and painful micturation from an ulcerated condition of the bladder, which probably results from a primary infection in the kidney. Then you have the cases of trouble in the back, hip or ankle, and later develop tuberculosis of the genito-urinary organs.

I am firmly convinced that were we able to early recognize the offending organ, that removal would be the proper procedure, but where these cases are recognized in the bladder or epididimis we can expect to accomplish but little by surgical procedures, as we are constantly threatened with reinfecting from the existing diseased kidney. Nature tries early to wall off the source of infection, and if we can assist nature's work by increasing the power of resistance by building up the general condition, then I feel we have done a great deal for our patient.

Take the cases of tubercular conditions of the epididimis: You have all watched them run an active course, and save for the nodulation, the patient has apparently recovered. I recall a case of a young man who consulted me some twelve years ago for a tubercular testicle. I explained the condition to him, the advisability of a regular life, etc. He left me, placed himself under the care of an able medical gentleman who advised castration. This was objected to by his family. A consultation of four was arranged. Two being for and two against the operation. There being such a diversity of opinion, he decided to return to me. On a regular life he gained twenty pounds; all manifestations, save a small nodule disappeared, and I had the satisfaction of treating him, some two years later, for a gonorrhoea. Within the last few months I have heard of his marriage. Our gynecologists will say, "Is there not danger of a wife becoming infected?" I believe less danger in these cases than from cases of previous gonorrhoea. If tubercular infection takes place, in my opinion it is before it is recognized, or the active symptoms have manifested themselves. After the acute inflammatory stage develops, and the nodules appear, the testicle is of about as much use and as dangerous as a celluloid one. But I believe the removal may result in the extension of the tubercular material through the vessels, to say nothing of the mental effect upon the patient.

In bladder tuberculosis, the original site of the infection is around the mouth of one or both ureters. First, as small nodules which later become confluent and form ulcers. The patient presents himself with a history of frequent and painful micturation with some hemorrhage. That following instrumentation or lavage, the distressing symptoms have been aggravated. Many advise the washing of the bladder with a solution of corrosive sublimate, 1-20,000, increasing to 1-10,000. Others, the application of nitrate of silver; others the use of a 3 per cent sulphate of thallin injection. I believe, myself, in keeping out of the bladder, if possible; giving it absolute rest; building up the patient's general condition; paying special attention to his outdoor life, etc. As a rule, pain and frequency will diminish, the patient put on flesh and enjoy fairly good health. These were the general lines pursued in the past, but I believe we are on the threshold of wonderful developments in a curative treatment of this class of cases by means of vaccines. The stock vaccines have not been followed by the brilliant results that I have hoped for. Though in some cases they have, no doubt, been of help. The homologous vaccines are the ones that I believe will give us the ideal results.

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* Read before the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

THE NECESSITY FOR AN ACTIVE CAMPAIGN AGAINST VENEREAL DISEASES.*

By DR. FRANCES M. GREENE.

A medical society becomes in a sense the conscience of the community which it represents. As a physician is responsible for the individual under his care, so have you become responsible for the aggregate of individuals, the public, whose physical well-being you have undertaken to safeguard. Therefore, I appear before you this evening to beg that your attention be directed to the great public need for an active crusade against venereal disease.

Syphilis since its first appearance in Europe at the end of the 15th century, has always been recognized as a grave disease, and every known means for its limitation and elimination has been tried, from burning the prostitute to regulating the traffic of her body as a recognized profession.

Ethical reformers have from time to time in this country headed crusades against prostitution. They made the serious error of attacking only the manifestation of the evil, and that on its weaker side, instead of seeking and destroying the causes which create and support it as an institution.

In Pittsburg, Penn., in 1891, the citizens of that place closed the houses of prostitution, turned the inmates out upon the streets, refusing them lodging and even food. (Dyer.) The injustice and futility of such a procedure illustrates the weakness of undirected ignorant popular opinion.

In 1892, Dr. Parkhurst, a minister of the gospel, decided to reform New York. He did succeed in causing the locality set apart by common consent for prostitutes to be cleared out. (Dyer.) Again the mistaken idea of prostitution. The result was to be foretold. Instead of a restricted plague spot, New York has disseminated plague spots.

All such methods of reform fail, because,—

1. No diseased condition was ever cured by treating only the symptoms.

2. They fail to make all parties concerned in an act responsible for it.

3. No appeal was made to the fundamental laws of equity and self-preservation by which public opinion can best be influenced.

The whole question lies deeper than prostitution itself. It lies in undirected, untempered human passions. Lies in an unawakened public conscience, in artificially cultivated ignorance, in secrecy, and in the disregard of individual responsibility.

The countries of Europe, with their older civilizations, their overcrowded cities and unfavorable economic conditions for the working classes, combined with the wave of indifference and decadence so seriously affecting their more prosperous social media, first awakened to the fact that something must be done.

It was in this spirit that the First International Congress for the prevention of syphilis and venereal diseases met for the purpose of discussion and mutual help in Brussels in 1899.

To this conference were invited delegates from governments, municipalities, physicians, lawyers, and such officials whose office presupposed an interest in public hygiene.

The first paragraph of the letter addressed to the invited delegates read as follows:

"The increasing spread of syphilis and veneral diseases has become a serious danger to society. It is necessary while it is still time to take measures for the purpose, if possible, of arresting the ever-increasing invasion of this scourge. In order to combine and unify all such efforts a committee has been formed and has decided to organize an International Conference for the Prophylaxis of Syphilis and Venereal Diseases."

At this first congress two of the delegates from the United States presented papers. Dr. S. Lustgarten of New Jersey read a short paper showing the impracticability of introducing laws regulating prostitution in the United States.

Dr. Isadore Dyer of New Orleans presented an exhaustive paper representing an enormous amount of labor and demonstrating that practically nothing had been done in the United States toward the recognition of the existence of such diseases. Dr. Dyer sent a list of inquiries based upon those issued by the secretary-general of the conference, Dr. Dubois Havernith, to all cities in the United States having 20,000 or more inhabitants. Of the 184 cities replies were received from only 69, and these furnished no data regarding venereal diseases.

To quote Dr. Dyer, "all opinions formulated by the health officer, police official or city mayor, or clerk have been drawn altogether from personal conviction, or else from the merest impression."

In his conclusion he states:

"The impression that stands out most strongly is that of the general public indifference to the question of prostitution, and the fact that it is relegated in almost all cities, (one only of those heard from excepted) to the police department, and is classed with vices, crime and nuisances."

What appalling ignorance of governments is this which places entirely in the hands of the most ignorant of its officials this source of the third great plague of the modern world!

Much time was devoted in this first congress to the discussion for and against the reglementation of prostitution. This is of minor interest to us (since it is repugnant to the genius of our race) aside from the light it throws on conditions in other countries. I have since learned that the reglementation of prostitution is being agitated in San Francisco and hope the matter will come to discussion.

I shall occupy your time only by touching upon such resolutions as were unanimously passed, and which apply to universal conditions.

The first resolution, proposed by Professor Fournier, who has perhaps done more to further the study of syphilis and the movement against it than any other man, and M. Jules le Jenne, the enlightened minister of the State of Belgium.

* Read before the San Francisco County Medical Society, October 12, 1909.

Resolved—That the governments be called upon to use every means in their power to suppress the prostitution of minors. In view of the following statistics this is of importance to us. The legal age of consent in the United States was at that time—

In three states 10 years.
In four states 12 years.
In three states 13 years.
In twenty states 14 years.
In three states 15 years.
In twelve states 16 years.
In one state 17 years.

In California it was then fourteen years, since raised to sixteen.

A group of well-known men, among them Fournier, Parlov, Jonathan Hutchinson, Lesser Neisser, and others whose experience has found a striking lack of preparation in the medical profession, were sponsors for the next resolution.

Resolved—That governments be urgently recommended to secure a more complete education in these subjects to their medical students, by making courses with specialists and examinations by specialists obligatory.

The enormous importance added by Noeggerath to gonorrhea, making it responsible for from 60 to 80 per cent of pelvic diseases in women, Fournier's authority for the relation of Parasyphilitic diseases to Syphilis causing extension of treatment to four or five years, the possibility of an heredity to the second generation, have raised the question of venereal diseases to one of the first importance in the study of medicine.

Burleareaux insists that young physicians should be sent into practice so thoroughly cognizant of the importance of venereal diseases that no matter what they may be called upon to treat, the possibility of a specific origin should always present itself to them.

Further resolutions of interest to us because they show that the needs of the movement can only be met by combined action, are:

No. VII, proposed by Professor Lassar, Berlin: Governments are urged to draw attention of the youth to the dangers of prostitution and the sinister results of venereal diseases.

No. VIII favors a uniform manner of compiling statistics in all countries.

It remained for the second International Congress, held in Brussels in 1902, to finally be unanimously convinced that the most important and efficacious means of combating the diffusion of venereal diseases consists in a widespread popularization of knowledge relative to the dangers connected with the maladies.

Above all should the masculine youth be taught that not only are chastity and continence not injurious, but that these virtues are most important and desirable from the medical standpoint. (Neisser.)

The conference also recommended that the problem of rational and progressive education in the matter of sex from a hygienic and moral point of view be submitted to the teachers and educators of all classes.

These resolutions, unanimously arrived at after great difference of opinion, lively debate, and mature deliberation of world-renowned specialists in medicine, assisted by distinguished men in other important positions of public trust, served as inspirations for the national societies formed in every country in Europe, and for the first efforts in this work, in the United States.

The work of the societies in Europe has assumed an importance that has forced the approbation, and in most countries, the co-operation of the government.

I regret that we have not time to follow in its developments the pioneer work in the opening of a new era in public health. The first move in this country was made by Dr. Prince Morrow, whose able paper before the New York County Medical Society inspired it to the appointment of the Committee of Seven to study measures for the prophylaxis of venereal diseases, and in 1905 to unanimously endorse a plea for the organization of a society for this purpose.

The first American Society of Sanitary and Moral Prophylaxis was organized in 1905 under the able leadership of Dr. Prince Morrow, in New York. It began with 20, and now numbers 400 members.

In 1906 the Pennsylvania Society for the Prevention of Social Disease was founded. It has a membership of 800. A very significant fact is that two Philadelphia daily papers report the meetings of the society.

The Chicago society, organized in 1906, numbers 250 active members. Similar societies exist in Baltimore, Detroit, Milwaukee, Indianapolis and Jacksonville. In San Jose, under the auspices of the California Public Health Association, was founded in April, 1909, the California State Association for the Study and Prevention of Syphilis and Gonorrhea.

We are very far from these centers of active work. Our population is composed for a large part of a foreign element and their descendants still close to traditions of the home countries. The "Spirit of '49" is the common expression which designates that recklessness of consequences so characteristic of the native.

We possess as yet no statistics, but no physician who has practiced medicine in San Francisco will doubt the necessity for active interference.

The International and National Congresses have been a great benefit in bringing to light the conditions leading to and surrounding venereal infection, both through sexual and non-sexual channels. They are the prototypes of a society of which there is great need here. No evil can be combated if we do not simply, openly, and in all honesty discuss it. Darkness, mystery and disguise are the best media for the cultivation of moral as well as physical bacteria. We all know what has been done for tuberculosis and alcoholism. This third great scourge can only be controlled if we can drag it from the secrecy in which both the medical profession and the laymen have so long persisted in keeping it, and open it to the healthy action of perfect understanding and public discussion of ways and means.

Another result of scientific statistical investigation and open discussion is one which if properly used is likely to prove an important factor in changing the attitude of the general public toward these diseases. I refer to the large percentage of innocents who contract venereal diseases. Fournier gives the percentage in his private practice of wives who contract syphilis innocently from their husbands as 20; Morrow, in dispensary practice, as 70; in more civilized countries 10 to 20 per cent is contracted accidentally; in Russia, accidental-non-sexual, as high as 70 per cent; in pelvic diseases of women 40 to 80 per cent. Add to this that the average age at which young men acquire venereal diseases is, according to Fournier, from the 19th to 23rd year. (In this country where the youth have more freedom, we may set the age as younger by several years.) From a really moral standpoint, these victims of temptation too strong for their years, unprepared and ignorant of the dangers awaiting them, are as innocent as those whose infection was accidental. With the assistance of such statistics and a logical, just and humanitarian conviction that these diseases are not shame diseases, since most of the sufferers are the victims of ignorance, false education and false social conditions, we can safely approach the public of both sexes.

I believe with Professor du Claux, the successor to Pasteur, who says that a fight against venereal disease will only be possible when we can arrive at the point of view that the sufferers are not guilty but unfortunate.

I quote Professor Finger of Vienna: "Society should be taught that instead of being ashamed of and not fearing these diseases, they ought not to be ashamed of, but fear them."

The responsibility in these matters is becoming too heavy for the enlightened physician. Considering the widespread consequences of venereal disease professional secrecy, to the honorable physician, is often being strained to a point where it is impossible for him to decide upon the lines of a tradition inapplicable to present conditions.

The growth of such movements as Christian Science and the Emmanuel Movement is a symptom of a growing distrust of our profession.

If we wish to preserve the honor of the medical profession intact we cannot afford to be silent. We can ill afford to take no cognizance of scientific and sociological development. We must not allow the laymen to think that we are guarding as a secret and using for the purpose of commercial gain, the knowledge of diseases which are so widespread in their consequences, so difficult of cure, and of which the prophylaxis is of so great an importance.

As long as physicians still treat gonorrhea with cynical humor; as long as they send fifteen-year-old boys to prostitutes because they have had a few emissions; when, in spite of the consensus of scientific opinion to the contrary, they still continue to believe that almost with the first night emissions a lad is sufficiently developed for sexual intercourse, we shall deserve the hard things that are said about us.

Our educators are alive to the gravity of the situation and look to us, as possessors of the knowledge, to make the first move. It is natural that the first impetus should come from the medical profession. Nothing effective was done in the movement against alcohol until all sentimentality was dropped and the subject was treated scientifically. The morality of a movement whose object it is to protect the individual, the family, the nation and the race, speaks for itself.

The first steps toward the solution of the problem have already been suggested to us, viz:

1. The dissipation of public ignorance on the subject.
2. The proper sex education for the young of both sexes.
3. The stimulation of physicians to a deeper study of the subject.
4. The destruction of the antiquated opinion that chastity in young men is injurious.
5. The co-operation of educators and legislators in this common cause.

I cannot more fittingly close this appeal that all earnest men and women help in the first active steps in this direction, than by quoting from Thomas Huxley, who sacrificed his own scientific ambition in order to popularize science and to develop and organize scientific education: "To promote the increase of natural knowledge and to forward the application of scientific methods of investigation to all the problems of life to the best of my ability, in the conviction which has grown with my growth and strengthened with my strength, that there is no alleviation for the sufferings of mankind except through veracity of thought and action, and resolute facing of the world as it is."

DR. H. H. RUSBY ON IMPURE DRUGS. AN ADDRESS BEFORE THE PHYSICIANS OF REDLANDS, CALIFORNIA.

An interesting little gathering of physicians and pharmacists occurred on Tuesday evening, August 24th, at the office of Dr. Hoell Tyler, at Redlands, this state, when an address was made by Dr. Henry H. Rusby, Dean of the College of Pharmacy of Columbia University, in the City of New York, and president of the American Pharmaceutical Association. The occasion was that of a visit by Dr. Rusby to his old friend, Dr. Tyler, they having been associates on the medical staff of the New York City Lunatic Asylum in 1883-1884. Dr. Tyler celebrated the occasion by asking his numerous medical and pharmaceutical friends in Redlands and surrounding towns to join in welcoming his guest.

Dr. Rusby took for his subject the existing defects in the quality of medicaments, which have recently attracted such great attention, and the best means for their removal, and spoke as follows:

I have just concluded a tour of inspection of

the principal cities of the Pacific Coast, having collected a large number of samples of drugs which are to be critically examined upon my return. Enough has been seen upon this tour to convince me that a great deal of serious imperfection exists in the drug supplies on which the physicians of this coast are dependent. It is hardly worth while to venture an opinion as to the extent of this imperfection, but it appears to be greater than in the East, where we have usually found about 20% of the articles examined to be seriously defective, it being understood that we examine chiefly those articles which we consider likely to be defective. Neither is it worth while, for my present purpose, to discuss the causes, accidental or intentional, farther than to say that there exists considerable deliberate and carefully studied adulteration and substitution. My only purpose is to call your attention to the urgent need of improvement and to suggest ways in which it may be secured.

Let us take as an illustration the town of Redlands. I have done no inspecting or collecting of samples here, and it is only through comparison that I assume somewhere in the neighborhood of 35% of such defects as I have referred to. I would include in the list of drugs thus defective such things as Colocynth, Aconite, Conium, Henbane, Belladonna, Stramonium, Digitalis, Balsam Peru, Balsam Copaiba, Scammony, Jalap, Coto, etc. Although my assumption may be entirely out of place, and Redland's Pharmacy may be exceptionally perfect, let us discuss the case as I have supposed it to exist. Certainly the physicians present will agree that its continuance should not be tolerated and that they, as the class chiefly interested, should procure a change. What is the proper course to pursue in such a case? The law has fixed upon the pharmacist who fills a prescription or makes a sale as the party who is responsible for any defect in the article so dispensed or sold, unless it represents an unbroken original package, in which case the responsibility reverts to the source of that package. In other words, it is the legal and professional duty of the pharmacist to satisfy himself of the identity, purity and good quality of everything that he dispenses or sells. At first glance, the physician may think that this reduces the question to perfect simplicity, but such is far from being the case. It is a practical impossibility for the pharmacist to examine and test every article that he keeps in stock. For a pharmacist with an average business to do so would require the employment of at least one professional analyst, and the price of prescriptions would be doubled or trebled. So far then, it looks as though the law prescribes a punishment for the pharmacist unless he performs the impossible. There is a way, however, by which the pharmacist can control, with reasonable perfection, the quality of his goods, without recourse to this wholesale system of testing. The U. S. Department of Agriculture maintains a system of inspection of interstate commerce in drugs, and is prepared and glad at all times to examine suspected products having this relation. The pharmacist then is in a position to send to the Department for examination any suspected sample representing interstate commerce. As a matter of fact, the obtaining of such samples constitutes the most difficult part of that Department's work, and the assistance of pharmacists in obtaining such samples would be most welcome. In case of intra-state commerce, most of the states now have commissions or boards which are required to perform such work. Until recently, California had no such provisions and was a recognized dumping ground for the pharmaceutical refuse of the East, but this defect is now remedied, and any pharmacist in this state can, by taking the proper course, obtain state assistance in unearthing the misbranding or adulteration of medicinal products.

The proper course for every pharmacist to pursue is to notify his supply house that he intends having its products rigidly tested, and to hold them responsible for the results, and that if such products are found to be defective, he will cease trading with them. The mere establishment of such an understanding will in nearly all cases accomplish the desired result. When it does not, the carrying out of its provisions certainly will. It is a common thing for the supply houses to declare that they desire nothing so much as to furnish the very best grade of goods, but that the pharmacist insists so strongly upon having inferior or defective ones that they are unable to resist his demands. The inauguration of such a movement as that here suggested would certainly result in the settling of this controversy.

With this view of the situation, the course of the physician becomes clear. If it is within the power of the pharmacist to perfect his stock, it becomes the duty of the physician to require him to do so. Were I a practising physician in a town where there was but one pharmacist, I would serve formal notice upon him that I intended to secure the testing of his drugs, just as I have stated that the pharmacist should notify his supply house to a similar effect. I would satisfy him fully that he would supply defective products only at a great risk to himself and I would then carry out the plan thus announced. There would, of course, be some trouble and expense involved. Where a local medical society exists, as in this neighborhood, such trouble and expense could be shared by the appointment of a committee. This committee could itself perform preliminary tests, and then call upon the state or national boards, after it had established a probability of cause for action. This would promote the study of official tests and standards by the medical men, one of the greatest needs of our physicians, and it would introduce a new and exceedingly interesting class of topics for discussion at the meeting. Best of all, it would bring about a complete remedy of the evil herein considered.

The pharmacist, on his part, is sadly neglectful of his professional duty of organizing for united pharmaceutical work, as physicians do through their local societies. There is a great national organiza-

tion, the American Pharmaceutical Association, and most of the states have pharmaceutical associations which meet in annual convention. But the amount of detail work that can be performed at these meetings is limited, and this should be done by small local bodies. Recognizing this, the A. Ph. A. has begun the formation of local branches, and excellent work has been done by them within the past year or two. One is just now being formed upon the Pacific Coast, and the number to be eventually formed here will be limited only by the general extent among pharmacists of a desire to participate. In the same way, county branches of the state societies could be organized, as is done by medical men. When we think of the great number of small local medical societies and of the great amount of hard and useful work that they perform, it seems both pitiful and shameful that no such movement is to be seen among pharmacists. Nothing could do more to advance the reputation of our profession among the better class of physicians than such an evidence that the professional side of our calling was receiving due consideration, at least insofar as relates to our most important duties to physician and patient.

The one fundamental fact with which I am here dealing is that the enactment and support of good laws depend finally upon public interest and co-operation. Congress and the legislatures have done their best in legislation, and the administrative officers are working with more or less energy and faithfulness, but their opportunities and capacities are so limited that success absolutely requires the co-operation of the medical and pharmaceutical professions. Furthermore, the laws are all seriously defective, yet the legislative bodies who framed them are not likely to remodel or amend them until the defects have been demonstrated by those concerned, and then brought to their attention. The best way of accomplishing this result I have herein tried to indicate.

Having thus pointed out the failure of pharmacists to do what is easily in their power to remedy this condition, I will indicate a way in which many physicians are contributing to its maintenance, namely, in the dispensing of their own medicines. It is only vanity that can suggest to the average physician that he is anywhere near as competent to dispense as is the average pharmacist. His training does not and cannot so fit him, and if it is true that a dishonest supply house hopes at times to take advantage of the ignorance or carelessness of the pharmacist, it is also true that it looks upon the body of dispensing physicians as a mine of ignorance and incapacity that can be worked to its pecuniary advantage, using the key of flattery to unlock the door of his vanity. As a rule, the materia medica trash is disposed of among them, and the only place where worse stuff is distributed is to the hospital boards; for it is well known in inside circles that it is very common for such boards, especially when their lay members are influential, to demand of manufacturers the supply of medicaments at prices below specified figures, and without regard to their quality, or even their identify.

Unless physicians see and act upon this important fact, the time is surely coming when their patients will do so, and will discriminate accordingly among their medical advisers. If the pharmacist will but do his part in convincing the physician of his fitness, and will free himself from his own derelictions in the matter of counter prescribing, there is no good reason why each profession could not come into its own, to the great advantage of the patient, who stands between and suffers from the waywardness of both.

Dr. Rusby was asked by a physician present what he had to say about the nostrum evil, and quickly replied that its existence and growth were the direct result of the acts of physicians. He said that he knew of no important nostrum that had not gained its introduction through its use and recommendation by physicians; that physicians are too credulous of the promises of the nostrum proprietor. These proprietors promise to maintain the use of the nostrum in prescription work only, but totally ignore this promise as soon as the physician has assisted them to introduce the article. To this rule he knew of no exceptions, nor did he consider one possible under existing commercial conditions. If any man has the power, through proprietary rights, to betray the physician, he will surely either do so himself, or sell out at a good figure to a successor who will do so. The only course for the physician to pursue is to inquire as to the existence of such rights in an article, and if they exist, to have nothing whatever to do with it. To the limited proprietorship of a patent, for a brief term of years, in a genuine discovery, some consideration might be granted, but most nostrums hold the perpetual monopoly of a copyright. It is out of order for the physician to charge to the pharmacist the responsibility of preventing or discouraging the use of medicaments. For this demand the physician should be wholly responsible, and he should create, regulate or destroy it, as the case may require. The pharmacist is to supply the demand thus created, or allowed to develop, and to be responsible for its quality. If it is true that many pharmacists promote the demand for nostrums, for financial reasons, it is also true that a host of them sacrifice much business in refusing to do so, and exercise an advisory influence against their use which might well be imitated by a majority, perhaps, of practising physicians.

Asked what he thought of the value of active constituents, and of their availability by the physician for dispensing purposes, he replied that it was an error to regard such agents as forming a single class and thus to decide such a question. They fall into many classes. Only a small minority of important drugs can be used in the form of their extracted constituents. Of these, some were more prone to variation in strength than the galenical preparation of their drugs. Others were very prone to impurity, and the cost of perfectly purifying them was so great as to lead to neglect of such treatment. Others are apt to deteriorate, especially in tablet form. Some are usually pure, uniform, stable and convenient, and are for general use the

best preparations of their drugs. However, it might be said with the utmost assurance that every danger of defective tablets and active constituents was exaggerated when the articles were supplied to the physician, and this was specially true of shortage in the supposed amount present. The pharmacist is far more able and likely to protect himself against an imperfection than the physician, as most physicians would doubtless admit when they reflected upon their inability to make qualitative and quantitative examinations. The small profit that the pharmacist would charge in supplying his physician would yield full returns to the latter in increasing his protection, and in enabling him to place upon the pharmacist the responsibility of guaranteeing the quality of the goods.

Many other pertinent questions were put and answered and the discussion was continued until a late hour.

ENUCLEATION OF THE TONSIL IN ITS BEARING ON GENERAL INFECTIONS.*

By REDMOND PAYNE, M. D., San Francisco.

I am writing this brief paper upon the subject of general infection through the tonsil and the necessity for the radical tonsil operation, because we must hear it repeated to us and impressed upon us many times before its importance is brought home to us—also because in many of our large cities today, it is still an exception to find an operator who is doing the complete radical enucleation.

There is no more reason for doing an incomplete tonsil operation than imperfectly performing any surgical operation.

Many operators are careful to remove all diseased mastoid cells, but will partially remove diseased tonsil tissue. In the light of the general infections resulting from it, the complete obliteration of the one is as important as that of the other.

The excellent work of Goodale, Wright, Ballenger, and others, has given the proper status to the diseased tonsil. There is no longer any doubt that many infections and toxemias gain entrance through the tonsil. While the mucous membrane of other parts of the throat may withstand invasion, that in the lacunae of the diseased tonsil, the epithelium is constantly exfoliated, offering direct entrance into both the lymph and blood streams.

In childhood, the cervical adenitis so frequently seen, is usually tubercular and though Goodale of Boston often failed to demonstrate tubercles or the bacillus in the tonsil tissue, yet when the tonsil material was injected into guinea pigs, tuberculosis was produced in a large percentage of cases. One should bear this in mind and enucleate this "tonsil gland" as well as the diseased cervical glands.

In children predisposed to tuberculosis the diseased tonsil favors the infection by harboring the infecting agent. The same seems true of rheumatism. In those predisposed to that disease, the diseased tonsil favors the infection whether it is due to a specific organism or a mixed infection.

There are long lists of observers, who find the diseased tonsil, the cause of a variety of general infections.

Rheumatism: Ingals, after a careful study of 100 of his own cases of tonsillitis, reverses his former view and now believes tonsillitis plays a very important part in the etiology of rheumatism.

Phillips, in 210 cases of acute articular rheumatism, found that tonsillitis developed in 187, during or before illness.

Brown describes a regular epidemic of tonsillitis in school children with rheumatic complications. Many cases are reported where extirpation of diseased tonsils has cured recurrent attacks of rheumatism.

General Infections: Otten, Woodcock, Stengel and others report cases of general staphylococcic infection, pyemia phlebitis, fatal septicemia, originating from the tonsils.

Nephritis: Morse, Hammerschmidt and Adler report 85 cases of nephritis following tonsillitis—usually a mild type.

Endocarditis: Ross reports streptococcic endocarditis following tonsillitis; Charrin a fatal case, caused in the same way. Packard reports six cases.

Pneumonia: Hammerschmidt, Adler and Wallace report six cases of pneumonia following tonsillitis.

Pleurisy: Several cases are reported following tonsillitis.

Phlebitis: Among other cases reported, Wagner reports two cases from which an apparently slight angina produced a suppurative thrombosis of the jugular vein and pyemia-streptococci, found in both vein and tonsil.

Many cases of meningitis, parotitis, skin erythema, etc., are reported as following tonsillitis and having direct relation to it.

Many other infections are reported by reliable observers, which we have not the time to go into now, but these serve to point the way—and I wish to point out particularly that the general infection can take place through the tonsil without local inflammation in the tonsil itself having been produced.

These diseased cryptic tonsils need not be hypertrophied—on the contrary they are very frequently imbedded between the pillars of the fauces and require pulling the anterior pillar forward in order to expose it. This small tonsil is full of crypts and diseased and is quite as often the harbor of infections as the hypertrophied tonsil.

Any general inspection of the throat gives no reliable information as to the part it is playing in given general infections;—it is the tonsil and the tonsil only that must be thoroughly explored.

In view of the above facts, it will be seen that the simple hypertrophied tonsil for which tonsillotomy was done, is the least important one requiring surgical management and that a diseased tonsil should be completely removed, no part of the lymphoid tissue being left behind.

Bearing this in mind, that the tonsil is an encap-

* Read before the Pacific Association of Railway Surgeons, August, 1909.

sulated mass of lymphoid tissue resting in the sinus tonsillaris between the pillars of the fauces upon the fibrous bed of the superior constrictor muscle, the tonsil is readily shelled out of its bed with its capsule intact as one can shell out the superficial glands of the neck.

The Operation: The tonsil is seized with a small tenaculum pulled inward to expose the marginal attachments of the pillars to the tonsil—with a small, straight blade, cut through the mucous membrane and attachment all around the face of the tonsil, dissecting back a short distance, keeping close to the tonsil capsule in the dissection—as in shelling out a lymph gland—with a long-handled, blunt dissector. Begin to free the tonsil and it will soon pop out of its bed when it can be readily freed from above downward; when the upper 2-3 or 3-4 is free, the Peters snare with No. 7 piano wire is slipped over it and the loop passed behind the tonsil and dissection completed by the snare.

If one is careful to avoid puncturing mucous folds of the pillars and buttonholing the fibrous bed, there will be no bleeding to disturb one greatly. If either accident occurs, it can be controlled by hemostats—if not then the pillars can be sutured together, which always controls.

The operation is best done under general anesthesia, though in some adults 2% cocain and adrenalin equal parts, injected deeply around the tonsil is satisfactory.

The point of practical importance in regard to blood supply and control of bleeding is that the arteries pass external to the superior constrictor muscle, viz: the bed upon which the tonsil rests; after passing through the muscle, they divide into smaller vessels which enter the tonsil through its capsule. So if one hugs the capsule in the dissection, the vessel trunks are not severed and no troublesome bleeding occurs—the external carotid artery is nearly an inch distant.

Dr. Charles H. Miller (San Leandro): We very frequently see these cases in the acute stage for the first time, and I do not think that during that stage we are at all warranted in going ahead with the enucleation. I have found that during the acute stage very much can be done in the way of relieving the angina and, I think, in preventing complications, by the liberal use of asperin dusted on with a good powder blower. I have become quite a crank in the use of that drug and have gotten great benefits from its use in that way.

Dr. George H. Powers (San Francisco): I have no doubt but that I agree with what Dr. Payne has said in his paper, although I did not hear it. There is no doubt that the tonsils when in a diseased condition are susceptible to all sorts of infections, more so than perhaps any other structure of the body, and we very often hear from parents and friends of patients that if the tonsils were not intended to be there they would not be there in the beginning. I do not remove normal tonsils, only the diseased tonsils, just as a dentist removes the teeth which are positively doing harm. In that sense the removal is not subject to objection. We often hear that the removal of tonsils will injure the voice; the diseased tonsil is a menace in the way of vocal sound and much better out than in. The diseased tonsil when removed certainly leads to the improvement of the body in more directions than one would suppose possible until he has seen it done. The removal of the entire tonsil has a great advantage over a removal of a part of it. The only objection to the entire removal has been in cases where the patient has been unable to stand a long-continued anesthetic or, as it sometimes happens, that the dissection requires a good deal of time, but these cases usually do not need a great deal of time and it is much better to perform a complete operation. As to leaving a part of the tonsil, I cannot see any good reason for it, because in the first place, where the tonsil is affected, usually we find on removal that the entire tonsil was affected, and if you leave a part of it you leave a portion of diseased tonsil behind.

Dr. Robert W. Miller (Los Angeles): I have been very much pleased with this paper and in the main I heartily concur in the view taken by the writer that, although throughout the country attention has been called to these matters, it is true that many general practitioners and men doing general surgery and even many throat specialists are still inclined to temporize with these cases and do a tonsillotomy instead of a tonsillectomy. I am not altogether sure that in certain cases that practice is not correct. I think that we should carefully examine the tonsils, as suggested by the writer, for many of them are small and look very innocent indeed, and yet the patient has these important symptoms, viz.: a recurring arthritis or a low-grade chronic sepsis. I have operated upon a number of cases in which the patient had symptoms of rheumatic arthritis and some of them had suffered from a number of attacks, yet after the removal of the tonsils there were no further attacks. At the same time I think all doctors will do well to keep as close as possible to nature, study her methods of combating disease, to recognize physiological processes as far as possible in doing their work. The mass of lymphoid tissue must have been put there for some purpose. I think a tonsil that functionates will be a place for the final destruction of many pathogenic germs. The lymphoid tissue all around it in the pharynx is there for that purpose. If we have had a bad tonsillar infection, then it becomes a question in certain cases whether it is better to enucleate the entire gland or leave a portion, but in any case of doubt, I think it well to do a complete or so-called radical operation.

I believe that if the infection of the cervical glands is not particularly virulent or extensive and the general condition of the patient is good and he can be properly cared for and fed, that it is well, in many cases, not to remove the infected glands.

Suppose we have two or three infected glands in the neck and we may have others infected just as badly below the clavicle, a location practically prohibiting surgical procedure, we trust to nature somewhat anyway. In a general way I think the views advocated in this paper are correct, and I am sure that the importance of these cases is not as generally recognized as it ought to be.

Dr. Payne has stated that where there is a cervical adenitis, he not only enucleates the tonsils which are the source of infection but also removes the infected glands in the neck. The lymphatic system consists of lymphatic vessels and lymphatic glands.

The vessels convey the infectious micro-organisms to the glands, where they are assisted by nature's process. Here we find the foci of infection, and here the struggle for supremacy takes place. Here the invading micro-organisms are to be promptly destroyed, or in case of failure in this process, to be retained in situ by incapsulation and finally starved to death, thus preventing their multiplication or extension to other parts.

Dr. Redmond Payne (San Francisco), closing discussion: With reference to the removal of any part of the hypertrophied tissue of which the adenoid tissue is a part, I will say that there never has been anything but benefit come from the removal of any part of that ring. The removal of the adenoids has only done good, the removal of the tonsils has only

done good, and especially where the removed tissue is diseased. With reference to the tonsils being removed, I have dealt solely with the cryptic diseased tonsil, leaving the normal tonsil out of consideration. As to any other method than the complete enucleation, I will divide the tonsil into three parts, the head, the body and the tail. The head is well up in the supratonsillar fossa, which constitutes at least one-third. The body is between the pillars and the tail is down near the base of the tongue. Now the part which harbors the infection is that part in the supratonsillar fossa, and when it becomes at all closed by adhesions or otherwise, we have the peritonsillar abscess and local manifestations, and whenever even partially closed, we have the retention of the deposits in the crypts and general absorption and infections resulting. So I can conceive of no method of relieving the patient completely without wholly removing the tonsil within its capsule. I have only spoken here of the chronic, cryptic diseased tonsil and its bearing on the general and local infections; the management of acute tonsilitis in general is not considered—the enucleation of the tonsil should certainly not be done in an acute attack.

Discussion.

Dr. T. C. McCleave, Berkeley: I was struck with the remark that even in the centers of large population we find so few who do this operation properly. I think we should always find out what the specialist is going to do for our cases, and what kind of an operation, because the final result always comes back to us. I have been a crank for some years on this matter. I used to refer my patients to specialists, and I found afterwards that the children of ten continued to have trouble and that the responsibility and blame came back on me. I also found that few men at that time would do the radical operation, and so I have for some years been doing this operation myself. I think if you are going to refer your patients to the specialists, you should refer them to the man who will do the radical operation, because while the tonsil probably has some function in destroying pathogenic organisms, I hold that once the tonsil becomes diseased it never again becomes a normal organ. However much of the projecting tissue you may cut off you are bound to leave behind a piece of the tonsil in which are the extremities of the follicles which can never be cleaned out. These patients are subject to heart affections and rheumatic affections and various other conditions following tonsillar trouble. There is no more important topic in medicine than this one of tonsillar infection, and I could cite case after case in which I have seen infection of other organs traced back to previous tonsillar infections. The one point of importance that I insist upon is that if we are going to have patients operated upon by the specialists or surgeons, we should not let them do the incomplete operation of merely snipping off a piece of the tonsil, and then leaving you and the parents with the false sense of security that comes with that.

REPORT AND PRESENTATION OF SPECIMENS OF A CASE OF CENTRAL CAVITY FORMATION IN THE SPINAL CORD DUE TO TRAUMA WITHOUT FRACTURE OR DISLOCATION OF THE VERTEBRAL COLUMN.*

By EDWARD T. DILLON, M. D., Los Angeles.

Shimata, Japanese, 32 years of age, entered Sisters' Hospital February 1, 1908. The account of the injury, and the condition of the patient prior to his reception at the hospital, as received from a Japanese who accompanied him were as follows: On January 19, 1908, patient had fallen from a car, had been paralyzed and had received medical attention. Further particulars and the name of the medical attendant could not be obtained.

Examination at the hospital showed the bladder distended and a false passage in the urethra from a previous attempt at catheterization. A catheter being introduced, the urine withdrawn was found to contain blood and pus.

The patient lies helpless, without the use of either arms or legs. The arms are flexed across the chest and upon extension when released, return to the position of flexion. Bed sores are beginning on the left heel and on several other areas of the legs and back.

Reflexes: Knee jerk absent on right side, present but small upon the left. A slight Babinski reflex is obtained on the left side. The cremesteric reflex is present on both sides.

Sensation testing is difficult and the results uncertain on account of the patient's dull mental condition and his inability to speak English. Attempts to converse with him through an interpreter are unsatisfactory. Patient seems not to feel a pin prick below the knees, but to have more or less sensation above. Endeavors to ascertain his ability to distinguish one form of sensation from another are quite unsatisfactory.

In the arm reflexes are present in the flexors but not in the extensors. Breathing is purely abdominal. Patient can shrug his shoulders slightly.

Upon palpation along the vertebral column there is some tenderness from the first to the third thoracic vertebrae, but no deformity can be made out.

Patient died February 2, 1908. The spinal cord was removed by Dr. C. L. Allen. An old extravasation of blood was found around the muscles of the back in the region of the seventh cervical spine. No displacement or fracture of the vertebral column could be made out. Upon removing the laminae, a slight depression on the posterior surface of the cord at about the fifth and sixth cervical segments was noted. The cord upon section at this level showed a cavity in the central gray matter about the size of a small bean, irregular in outline, extending more toward the right than toward the left, and occupying vertically a little more than one segment. Permission to examine the brain was refused.

A Brief Resume of the Pathology of Central Cavity Formation in the Spinal Cord.

While severe injuries to the vertebral column may take place without injury to the spinal cord, on the other hand serious lesions of the cord may be found without discoverable fracture or dislocation of the bones.

Experiments of Schmaus have thrown some light upon the different lesions which may be produced in the spinal cord following trauma, without fracture or dislocation of the bones. This experimenter suspending rabbits pounded them over the spine at intervals of several days. The autopsies made later showed that even in the absence of any fracture or dislocation of the bones, areas of softening and destruction of the cord occurred.

Traumatic affections of the spinal cord have been divided by Minor as follows: Those due directly to local injury as crushing, tearing or pulpifying. Localized lesions, as central hematomyelia, insular necrosis, changes in the central canal, or a combination of all three of these.

There may also be found various deformities, as rupture of the commissure and separation of the cord into two portions. Doubling of the horns and dislocation of the white matter, so that a picture simulating the decussation of the pyramids is presented.

* Read before the Pacific Association of Railway Surgeons, August, 1909.

Van Giesen (Artifacts of the C. N. S.) has shown that in making autopsies upon such cases extreme caution must be exercised, otherwise injuries inflicted in removing the spinal cord may produce the picture of any of the deformities mentioned.

Hematomyelia or localized softening occurs more frequently in the central regions of the spinal cord, the gray matter being commonly the seat of the hemorrhage, since it is more highly vascularized and less supported by connective tissue than is the white. The escaped blood may easily work its way up and down in the gray matter, as the resistance presented is small.

Hemorrhage primarily in the gray matter may become so extensive that it mechanically forces its way into the white matter. The absorption of the clot and the consequent degeneration results in the formation of a cavity. The character and extent of the destruction of the cord depends naturally upon the severity of the hemorrhage. In some cases of hematomyelia the bleeding may be disseminated. The small hemorrhage may be absorbed before great mischief has occurred, and the symptoms of localized pressure may disappear in time with recovery of the patient.

Hematomyelia followed by cavity formation in the cord without fracture or dislocation of the vertebral column, occurs more frequently in the cervical region. As the spinal column is more flexible in this region, due to the spinous processes of the vertebrae not over-lapping, this portion of the cord is more liable to stretching, which is commonly supposed to produce a rupture of the blood vessels.

It is difficult to understand how the blood vessels, rather than the more delicate nerve fibres, are first affected by the stretching of the cord, yet hemorrhage is generally considered to be the essential pathological condition.

The condition of hematomyelia has been reported as developing in the cervical region following a complete severing of the cord by fracture of the vertebrae in the lumbar rgion, although no fracture was present in the cervical region. This is accounted for by the fact that the cord must have been stretched in the cervical region and hemorrhage occurred.

In some cases the injury to the cord may be caused by a displacement of the vertebrae, which immediately springs back into position after the mischief has been done, leaving no evidence later of such a condition.

Cavity formation may be due either to hemorrhage which is later absorbed or to a localized necrosis. A combination of these conditions existed in the case reported.

If the patient survives long enough a secondary myelitis may develop. The systemic columnar degenerations have also been attributed to trauma, as has syringomyelia.

Such cases as the one reported emphasize the fact that serious injury or destruction of the spinal cord may occur following trauma to the vertebral column, even in the absence of fracture or dislocation of the bones.

Considering the pathological condition so produced, it becomes apparent that no hope can be placed upon surgical interference.

COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

It is significant to compare the apathy and even aversion which advocates of the study of tropical disease had to contend with a few years ago with the interest which is now evinced in this subject from all quarters. The close relation of tropical medicine to general medicine, the valuable research which has been done in the tropics, much of which throws light on medical problems at home, and the constant introduction of tropical affections into our own country have all aided in increasing this interest. Regarding the last point it should be remembered that California with its equable climate must be classed by the student of the geography of disease as part of the subtropics. We have no winter to break in upon the routine of the tropical parasitic affections which we may import, and they are consequently able to become endemic. Hence the matter of prevention is as important to us as it is to residents in some of our colonies. Prophetic in this connection is a quotation from a recent address in which Professor Osler foresees that "tropical sanitation will loom larger and larger in the future."

The invasion of Germany by cholera is an interesting and logical outcome of the Russian epidemic mentioned in our last issue and the advancement of this disease, synchronously with bubonic plague, in south China is also to be chronicled. Several important conferences on subjects relating to tropical medicine are hopeful signs of the times. The India conference on malaria and the recent conference in this country on pellagra deserve special mention. Regarding this last disease it is proper to point out here that instances of it undoubtedly exist in California, the writer having recently had opportunity of examining a case in Alameda county. The recent publications of the Sleeping Sickness Bureau in London are admirable illustrations of what can be accomplished in popularizing and disseminating information regarding a difficult technical subject. One pamphlet entitled "How to Avoid Infection" might serve as a model for similar brochures on other tropical diseases. The writer of these lines suggests amoebic dysentery as the subject of such a bulletin to be issued by the Health Departments of the bay cities.

Attention is being daily directed to what is a serious situation. We refer to the presence of endemic intestinal amoebiasis in California, especially in San Francisco and Oakland. A number of medical men have taken up the subject somewhat specially so that cases are being reported at rather alarmingly frequent intervals. The writer has seen several cases quite recently, some of which originated in Oakland. One little outburst was instructive as being traceable to the water supply of the victims. The number of cases originating around San Francisco bay is sufficient to justify a confer-

ence to discuss the medical and civic aspects of the disease.

We have recently had our attention called by Dr. Edward von Adelung of Oakland to a case of filarial haemato-chyluria in a man who has resided for years in Alameda county. The embryos in the blood are of the *bancrofti* type and present the locomotility mentioned by Craig in his description of his *Microfilaria philippinensis*. The case is under observation by Dr. von Adelung and the writer and will be referred to again.

Dr. Colby Rucker of the Marine Hospital Service informs the writer that a small indigenous wild rodent (*Netoma fuscipes anectens* Elliot) has been proven bacteriologically to be infected with the bacillus of bubonic plague. One specimen of this animal was brought to the Federal Laboratory and demonstrated by Dr. G. W. McCoy to harbor *Bacillus pestis*. This rodent is an upper and lower Sonoran form and one of its allies is a boreal form extending into the high Sierra. As the infected species is found from Oregon to Lower California, the deserts of Arizona, etc., the discovery is of great interest and importance. The fact that two genera of wild California rodents have been shown to harbor plague suggests the possibility of a general infection of our indigenous rodents obtaining in the near future.

SOCIETY REPORTS

BUTTE COUNTY.

The regular monthly meeting of the Butte County Medical Society was held at the office of Dr. P. F. Bullington, December 14, at 8:30 P. M., President Dr. N. T. Enloe presiding.

Members present: Drs. C. L. Browning, P. F. Bullington, N. T. Enloe, H. M. Parker and Ella F. Gatchell of Chico and Dr. L. L. Thompson of Gridley.

The following officers were elected for the ensuing year: President, Dr. E. A. Kusel of Oroville; Vice-President, Dr. D. H. Moulton of Chico; Secretary and Treasurer, Dr. Ella F. Gatchell of Chico; Member of the Board of Censors, Dr. H. M. Parker, Chico.

After the transaction of the usual business, Dr. P. F. Bullington read a paper on drugless treatment versus medicine, which was discussed at length by the members.

ELLA F. GATCHELL, Secretary.

SAN JOAQUIN COUNTY.

The San Joaquin Medical Society met in Hanford, in conjunction with the Central California Health Officers' Association, on October 12th. There was a fair attendance only. The morning hours were taken up by the Health Officers' Association. In the afternoon the following papers were read:

"Halux Valgus and Operative Treatment for the Same," by C. T. Rosson, M. D., Hanford.

Halux valgus is a condition that is by nature of its cause found only in adult life. It is a permanent abduction of the great toe and is seen in a condition from slight deviation to complete dislocation.

In the normal foot a line passing through the ball of the great toe produced backward will pass through the ball of the heel. This condition is only seen in babyhood among civilized nations, and in the feet of most uncivilized people who have never worn shoes. All adults who have worn shoes have slight deviation of the great toe outward, which in moderate degree may be considered normal.

Pathologically speaking the condition exists when there is enough deformity to cause pain and interfere with wearing a shoe that fits the foot. The cause of the condition is wearing shoes that are not the right shape for the foot or the shoe is too narrow or short. I also believe that socks that are too short will have a tendency to cause the same trouble. It is often seen in gouty subjects and people suffering from arthritis deformans, which hints that these conditions might predispose to the disease.

The pathology is deviation of the great toe outward and in extreme cases complete dislocation of the metatarso-phalangeal joint. The great toe either lies on top of or underneath the other toes, usually the former. A bunion is on the inner side of the joint and there is deviation inward of the first metatarsal bone, making a triangular foot with the apex at the inner side of the metatarso-phalangeal joint, which is capped with a painful bunion.

The joint itself is practically destroyed, as the articular surfaces do not come together. There is a bony growth at the end of the metatarsal bone internal to the joint, causing broadening of its end. The end of the bone itself is softened and porous, making it easy to cut with a pair of ordinary scissors. The long extensor tendon is also displaced outward, pulling at an angle that tends to increase the deformity.

This condition is often associated with hammer toe, flatfoot, arthritis deformans and gout. The treatment is prophylactic, orthopedic and surgical. The phophylactic treatment is to wear shoes that are the natural shape of the feet from childhood up. The orthopedic treatment is only applicable to those of moderate deformity. It is to place the toe in the proper position and hold it there with a toe post or plaster, or in incipient cases simply make a finger in the sock for the toe and place a bunion button over the bunion. This will give satisfactory results in young subjects with slight deformity. In the more extreme cases this will do no good; it is here that we are compelled to resort to surgery. It is in these cases that the skill of the surgeon has almost been exhausted trying to get the deformity corrected and leave a good metatarso-phalangeal joint, which is essential in order to get good prosthetic results.

Keen and others recommend that the head of the metatarsal bone be resected and the great toe be placed in position, which leaves a crippled joint with practically no mobility.

The best operation, and the only one I know of that will give satisfaction, was described by Dr. Mayo this year.

The incision is made through the skin with its convexity upward and extending well upon the dorsum of the foot, exposing the long extensor tendon. This flap is dissected downward, being careful not to injure the bursa, or bunion.

Next an incision is made with its convexity pointing toward the heel and ankle down to the bone, including the lateral ligament bursa and fascia. This is dissected forward, exposing the joint, letting it hang by a good broad base to the proximal end of the great toe. The head of the metatarsal bone is cut away, making the line of resection pass at right angle through the middle of the bony growth at the head of the bone. The remaining portion of the bony growth is cut away smooth with the long axis of the bone. Now the toe is pulled into place and the bursa ligament flap pushed in between the end

of the metatarsal bone and the articular surface of the great toe. Two catgut satures are passed on the internal side through the bursa and fascia, which holds the toe in its new position. The long extensor tendon is caught with a mattress sature and is transplanted to the inner side of foot, so its pull will be in a straight line with the long axis of the toe and metatarsal bone. The skin flap is satured with silkworm gut. The dressing is either dry sterile gauze or alcohol; Mayo recommends the latter. A large shoe with stiff sole is worn, which takes the place of a splint or toe-post. After this operation, a patient can wear a normal sized shoe, will not limp, or experience the least pain or discomfort. His toe will be straight, his foot normal, the bunion gone and the joint mobile.

There are a few things to be taken into consideration before doing this or any other operation on the feet. I don't believe it safe to operate on an old person suffering from arterial sclerosis, for fear of senile gangrene, also where there is endoarteritis, either specific or otherwise, or any one suffering from diabetes. If there is flatfoot or hammer toe they should be corrected, the former with an arch, the latter surgically.

"The Osteopaths—How Shall We Treat Them?" by Geo. H. Aiken, M. D., Fresno.

I assure you, gentlemen, this is not a subject of my own choosing, else it would have been something more profitable and entertaining. Frankly I believe our honorable secretary needed something to fill in, and as this is to be the fill and warp, I shall make it as concise and practical as possible.

As the title of this paper would imply, we do bear some relation to this "pathy" or school of practice, whether it be to our liking or not.

Let us consider, then, briefly what are our obligations (if any) to these people, what is their legal and professional status, what are they, and what have they done, that should entitle them to any consideration or recognition at our hands? I am speaking now of the Osteopath as we have known him in the past, not what he may possibly evolute to in the future. And I am charitable enough to admit that there probably are some sincere, honest, simple-minded people engaged in this work, proud of their vocation, and honest in their convictions; for such as these I have pity, and not contempt.

In 1901 the Legislature of California made it legal for the Osteopaths to practice their profession, but in no sense to practice medicine, prescribe, give medicine, or practice surgery. Whether under this act they have the right to use the title of Dr. only a court of justice would be able to determine.

In 1907 came the fight between the regulars and Osteopaths to restrict the latter in the further issuance of licenses under the law of 1901, and force them to submit to the same examination under the State Board, in which case, they (the Osteopaths) were to have representation on said board. After a long and bitter contest the regular profession won, and thereafter no Osteopath could practice his profession without first submitting to the State examination, and they were given two members on the Board of Examiners. While many had been licensed under the act of 1901, yet that of 1907 effectually put a stop to this, as no more licenses could be issued to the faking, uneducated, pretenders of medicine. Nearly the same fight and compromise was re-enacted at the last Legislature, with that unclassified, undefined hybrid profession so-called, the "Naturopaths." We are always sure to get into trouble when we begin to compromise with the devil, and we got into trouble when we compromised with the Osteopaths and Naturopaths. It was thought to be for the best, and the regular profression had to accept these compromises or see laws enacted which would have humiliated and disgraced us still more.

While the Legislature has seen fit to confer a certain doubtful title on these people, together with some rights and privileges, thank God it has not the power to force our recognition of these self-constituted professional mountebanks. When this pathy sprang into existence, or from whence it came, we have little knowledge. It comes as near to "spontaneous generation" as anything known. It has no honorable record in the past, and little to hope for in the future. As some one has said of the mule, "It has no pride of ancestry, and no hope of posterity." It has no long list of martyrs, sacrificed in the interest of suffering humanity; no great conquests are recorded in the subjugation of pestilence and disease; no sanitary reforms inaugurated, lengthening the span of human life, and lessening mortality.

Just what is the creed, articles of faith, or principles of practice, of this School, I have been unable to find out. As near as I can learn, everything is centered in the spinal-cord. Every ganglia represents and has control, over a vital center, therefore all one has to do is to play upon one of these, as you would on the keys of a piano, and results are forthcoming. The more you pull and pound the back and spinal vertebrae, the better and more startling the results. We all naturally despise sham, pretension and counterfeit, and the Osteopath of the past as we have known him, is a counterfeit doctor, nothing more and nothing less, a pretention and a humbug, all things to all people, that he may gather in their shekles. The reason I have no patient with, or respect for, this so-called school of medicine, is that they pretend to be what they are not, and claim to accomplish results which are not rational or possible.

One is not responsible for what he does not know, but entrusted with the life of a human being, he is criminally responsible, if he attempts to do that for which he is not fitted.

The following two cases treated by Osteopaths of which I had a personal knowledge will fairly well illustrate the professional capacity of the average Osteopath. I was called late one evening in 1902 to see a former patient, who was said to be suffering with severe cramps and colic. On reaching the house I found one of our local Osteopaths in attendance, trying to rub the pain out, but without much success. I learned that he had been in attendance for several days. But as the patient gradually got worse instead of better, the family became alarmed and sent for me. I did not stop to discuss the case or consult with the distinguished gentleman from the other school, but immediately proceeded to determine the trouble. On careful examination I found a well defined tumor in the right inguinal region, suffering much pain, and extreme tenderness over the entire abdomen, with two or three degrees of fever. A plain case of suppurative appendicitis, one which a first year student should have readily diagnosed. Immediate operation was advised, and a large accumulation of pus was found.

My second case was that of strangulated hernia, which had existed for three days. I saw this patient in the evening of a Thursday, with symptoms of well-marked strangulation, and advised the family to have the patient sent to the sanitarium immediately for operation, explaining carefully the gravity of the situation, and danger from delay, and the parties agreed to consult other members of the fam-

ily and inform me of their decision. I heard nothing of the case until the following Sunday evening, when a party came in great haste to my office, stating that they were bringing in Mr. G. from the country to some lodging-house, and wished me to see him at once. On reaching the room I was informed that the party had died on the road. Subsequent to my visit they had called in an Osteopath who promised the family he could rub this patient well in short order, with the result above stated. An autopsy revealed a gangrenous strangulated bowel, with rupture into the abdominal cavity, and general peritonitis. The case was turned over to the District Attorney, but as the family of the deceased did everything to protect the ignoramus who had killed this man, nothing came of it. When we consider such records as these, which is the common experience of nearly every physician in the land, when we consider the positive bad and negative good qualities of this class of practitioners, their low standards, boastful assurance, and stupid blundering, what in the name of heaven do they possess, or what have they done, that should in the least entitle them to any recognition or consideration at our hands?

Yes, gentlemen, when these people shall pass the same examinations, maintain the same high honorable standards as the regular profession, then, and not till then, shall I be willing to clasp their hands in professional courtesy and good will, but, when that day comes, they will no longer be Osteopaths, but honorable, qualified practitioners of medicine.

As in all other affairs of life, each must be a law unto himself, and act according to the dictates of his own conscience, but until those standards mentioned are reached, I shall stand where I always have, uncompromisingly as against any professional recognition of or association with these pretenders of our ancient and honorable profession.

Rev. A. A. Shields made a few remarks to the societies, denying that he had admitted that he believed in the Christian Science healing, as he had been quoted by the daily press. In answer to different questions asked him he admitted that the Emmanuel treatment consisted solely in suggestion, and that he did not believe that any more Divine power was given to him, or to any Emmanuel follower, than to any physician. It seems to me this admission renders the Emmanuel treatment as rather unnecessary.

Judge Jno. G. Covert of Hanford, Superior Judge of Kings county, read a very interesting paper entitled, "Law, and Its Relation to Medicine."

The Chamber of Commerce of Hanford tendered the San Joaquin Valley Medical Society and the Health Officers' Association a luncheon at Esery's Grill, which was very elegantly served and very much enjoyed by the members.

D. H. TROWBRIDGE, Secretary.

POLYCLINIC GATHERING.

Feb. 10th, 1909.

Demonstration by Dr. Levison.

Killian Bronchoscope: I have here a bronchoscope to demonstrate to you, and also an X-ray picture which I have taken and which is interesting from the standpoint of diagnosis. As you probably know, the bronchoscope is nothing more than a modification of the oesophagoscope, which was originally invented by Kussmaul of Freidburg, who used the straight tubes in connection with an obturator. These are now on exhibition at the Killian Clinic. Mickulicz and von Hacker developed the instrument and made it possible in consequence of their investigations to recognize a number of conditions. The oesophagoscope which is employed at present is a straight tube of different diameters and lengths. It was Killian in 1897 who first introduced a tube into the bronchus. In that year he removed four foreign bodies from the bronchial tract. Killian has accomplished a great deal in this domain and his improvement and technic have been mainly due to his assistant, von Bruening, who has improved to advantage all of the original instruments. As a result one can perform all of the manipulations necessary in bronchoscopy and oesophagoscopy with four different sized tubes, whereas with other instruments more individual tubes are essential.

The patient that I wished to show to-night was unable to come, but his history and the result of the examination is of some importance. The man is 45 years of age and has lost about 40 pounds during the past four months. He has a dullness over the upper part of the sternum. The heart is not enlarged and there is no respiratory change. He has been unable to swallow anything but liquids for quite some time, but it was possible to introduce a flexible sound 8 millimeters in diameter into the stomach. There was a distinct dysphagia. His appearance is suggestive of malignant disease and the difficulty in swallowing is in accordance with this diagnosis, but the passage of a flexible sound into the stomach is not easy to reconcile with the difficulty in deglutition. The fauces and larynx were cocained with a 20% cocain-adrenalin solution, the bronchoscope was then introduced. This exploration revealed a thickening of the mucous membrane covering the vocal cords. The instrument was then passed into the trachea and pushed some distance into this structure without further cocainization of the same. It was seen that the posterior wall of the trachea several inches below the cricoid cartilage was pushed forward, indicating the situation of the tumor. There was no expansile pulsation of the anterior wall of the windpipe, such as is seen when an aneurysm is present, consequently an aneurysmal tumor was excluded. It was not possible to introduce a tube into the oesophagus on account of the pain the patient experienced. On the following day the patient was given gruel mixed with bismuth, which it was not possible for him to swallow. In the midst of his attempt to expel what had entered his gullet an instantaneous X-ray picture was taken. This revealed a definite shadow 3″ in diameter, indicating a dilation above a stenosis of the oesophagus. (Several days later the patient died of a broncho pneumonia, and the autopsy revealed an annular obliterating carcinoma of the oesophagus corresponding to the situation which was recognized by the bronchoscope.) The diagnosis was of more interest to me on account of the fact that it was based principally upon the bronchoscopic findings.

Discussion.

Dr. Cullen P. Welty: We have two different types of instruments for examination of, and operation within, the bronchi and oesophagus. They differ most in the situation of the lamp for illuminating purposes. The Jackson lamp is at the distal end of

the examining tube, and of necessity more illumination than in the Killian lamp that Dr. Levison has shown. Again, the Jackson lamp is better in inexperienced hands as the light itself is in the immediate neighborhood of the part to be examined. While with the Killian lamp, and in fact all others, the light is reflected, this not only requires very careful adjustment and manipulation, as well as a trained eye with the reflected light. I had hoped that Dr. Levison would bring his lamp and make comparison in regard to illumination and the points I have spoken of would become very apparent. The one advantage that the Killian instruments have over the Jackson is the extension tube. However, this extension tube is not so necessary as it might seem for the reason that the foreign body or tumor may be located with the X-ray. Again, it must be remembered that you can see equally well through a long or short tube that carries a Jackson lamp. This is because of the position of the lamp. In reflected light there are numberless difficulties to overcome when you are looking through a long tube. The introduction of the tubes is quite easy as soon as a few technical points are well comprehended.

Dr. Zobel: These tubes being of the same principle as the proctoscope, a point can be made which will apply to both, that the light at the end of the instrument is so strong that very often you will imagine you have an inflamed process present in the mucous membrane, whereas it is just accentuated by the intensity of the light. Another thing with regard to the accumulation of mucus on the tube; there has been made a modification in the proctoscope where the light fits into a fixed glass at the end of the instrument so that should it become clouded with fecal matter by just inserting something covered with cotton it can be wiped without removing the instrument.

Exhibition of Patient by Dr. Levison.

Sarcoma of Thigh: I have here a specimen which was removed from a girl 23 years of age who has been suffering with a swelling in her knee for the last eight or nine months. During the past three months she has been incapacitated and has employed crutches to get around, but she has not been able to stand on her leg. When the leg was first seen it showed an involvement at the region of the inner condyle on the right side. She gave a pronounced history of tuberculosis. The mother has weak lungs, her two brothers have had their legs amputated on account of diseased bones, and one sister died of consumption. The examination revealed a swelling situated at the inner condyle. This was smooth on its surface and did not reveal fluctuation. The joint appeared uninvolved but its excursion was limited. The diagnosis in view of the history was a bone tuberculosis not involving the joint, but the absence of temperature made it impossible without exploration and without tuberculin tests to differentiate between sarcoma and tuberculosis. The X-ray revealed a diseased bone with a mass springing from the medulla and raising the periosteum. Operation: An incision was made through the skin which revealed a mass under the muscles resembling hematoma. This was incised and the bone found to be completely disorganized. The moment that this mass was disturbed an alarming hemorrhage occurred to a degree which I have never seen equaled before. Within a space of a few minutes the patient became almost exsanguinated. Packing of the wound and compression of the femoral seemed to exercise no influence and it was only after an Esmarch bandage was applied that the hemorrhage was controlled. The bone was curetted and an attempt was made to perform a conservative operation such as I believe should be done in this class of patients, as statistics have shown the medullary sarcoma is frequently amenable to conservative treatment, and this was what was followed out. After the medullary cavity was curetted and packed, the bleeding was controlled and the patient was put to bed with the Esmarch bandage in position. This was permitted to remain for several hours. Subsequent dressings showed that the hemorrhagic tendency was present and on several occasions it was necessary to re-apply the elastic bandage following the dressings. After ten days it was seen that the knee was again swollen and the track of the drainage tube became filled with granulation tissue. As the microscopical examination revealed a mixed cell sarcoma consisting of large irregular cells and spindle cells (no round cells), an exarticulation at the hip joint was decided upon. Amputation was performed after the method of Wyeth without the loss of a tablespoonful of blood. Before the Esmarch bandage was applied, the leg was elevated and the venous channels were emptied of their blood by gravity. The long pins were introduced in the usual situation. In performing hip joint amputations I have always separated the muscles from the head of the bone from below, but in this instance the head of the bone was freed through a vertical incision made over the trochanter, and which was continued downward as soon as it was freed. After the muscles were separated from the trochanter a long lateral incision extendng down to the bone was made. This reached to about the middle of the femur. A circular incision of the skin was made here and the section of the muscles was made higher up; the vessels were all clamped before they were cut and the sciatic nerve was blocked by injecting a 1% solution of cocain. When this nerve was cut there was no change in the character of the pulse, indicating a definite interference with the afferent nerve impulse. The bone was readily removed from above because of the separation of the muscles which had been done as a preliminary step in the operation. The amputation was without incident with the exception that the outer pin interfered with the separation of the muscles which were attached to the greater trochanter. Specimen: When this was opened it was found that the femur in its entirety up to the head was filled with tumor mass of a chocolate color. There were but two small areas of normal cancellous tissue in the head of the bone which remained uninvolved.

Discussion.

Dr. H. A. L. Ryfkogel: We are all very much interested in these sarcomata of the long bones and the trend of surgical opinion has been very definitely changed in recent years and instead of doing an amputation of the highest joint it is now becoming the custom to resect them; it is true that the resections have given better results. Both the ultimate and the immediate results are better. The principal reason for this is that certain of these types of tumors do not form metastases, that is, the giant cell and osteo sarcoma and certain of the chondrosarcomata. The more bone, for instance, present in sarcoma the less likely it is to form a metastases, tumors of all other types are exceedingly malignant. The mixed cell sarcoma is the most malignant of all. These tumors practically always recur when an amputation has been done, though curiously enough a few have not recurred after resection. Recurrence usually takes place in the scar. It is supposed that the great trauma has something to do with these recurrences. There has been a method adopted in treating these very malignant tumors which has met with good results, that is mere scooping them out of the capsule without attempting to do a definite resection and then treating with the X-ray. Some good results have been remarkable indeed. In my service at the City and County Hospital in the past three years there have been three cases of sarcoma of the bones, one a giant cell sarcoma that was first

curetted out. You will remember that the indications for treating giant cell sarcoma are to first curet it and that will cure probably the majority. If recurrence takes place you resect it subperiosteally if the peritoneum is not involved, and if it is you do a complete resection. Cases have been reported in which microscopical sections show that resection had been done within a couple of mm. of the growth and no recurrence has occurred. In the case of which I speak it was decided to do an amputation for further examination showed that the limb would be useless by the time we removed the lower part of the femur and the upper part of the tibia. The second case was a case of spindle cell sarcoma of the upper third of the humerus which involved the great vessels and the scapula. I showed this patient some three and a half years ago. The case ran along for nearly three years without any trouble, when one day while walking along the street he was taken with paralysis and fell upon the sidewalk. He was taken to the hospital, where gangrene of one leg developed, the leg being amputated by Dr. Huntington. He afterwards died at the City and County Hospital with metastases in the lungs. The last case which I had was a chondro sarcoma of the lower end of the femur. I did a resection in this case but the man was dissatisfied with the shortening and the leg was useless. We took out 8″ of the femur and when he asked for amputation I was only too willing to do it. He is now perfectly well so far as I can make out.

A Case of Bismuth Poisoning, demonstration by Dr. Barrett: Two or three months ago I presented before the Polyclinic Clinical Society a series of cases in which I had used bismuth paste for the injection of sinuses. One patient was a man who had had an abscess beneath the gluteal muscles. He came to us with a diagnosis of rheumatism, for which treatment had been had extending over some four or five months. The patient had been under salicylates and treated with various medicaments and massage and the things usually employed in these cases. When I saw the patient the abscess was about the size of a musk melon. Under infiltration anesthesia we evacuated this abscess through a small incision after separating the fibres of the muscles and after the evacuation of the pus, injecting the bismuth paste. We regarded the case as probably cured with one injection because it remained closed for four or five weeks. A little later, however, the patient presented himself at the office with a sinus discharging freely and we added paraffin to the bismuth paste and injected that. One day he reported that he had had a severe diarrhoea. We looked at his gums and found a discoloration along the borders of the gums which became more marked as the time passed. We ceased the administration of the paste but the discoloration became still more marked, the mucous membrane of the lower lip showed a dark area, he became weak, had a slight dyspnoea and became very much darker so far as the skin was concerned. We had other reports of diarrhoea at intervals. Shortly after that I noticed in the Journal of the American Medical Association a review of the literature and a report of a case by Beck on bismuth poisoning. This patient whom I presented began to gain at first after his operation and had gained three or four pounds during the time of the early injections, but lost weight from the diarrhoea and because of the fact that he was unable to eat. He presents on the gums and on the inside of the lower lip a dark deposit. It is now fading a little bit because he has had no bismuth for a month. This is the first case that I have seen of chronic bismuth toxemia.

Discussion.

Dr. J. T. Watkins: Yesterday I was at the Children's Hospital and saw some six or eight children on Dr. Sherman's service whom Dr. McChesney has injected with the bismuth mixed with paraffin, and was enormously impressed with the benefit that these children are deriving by this line of treatment. I believe that this is the greatest advance in the treatment of tuberculosis of the joints since the introduction of the use of plaster of paris. When I first came out here seven years ago I had an impression that tuberculosis in Vienna was pretty bad, but that in New York, where it received more attention, it was worse, that in Boston it was still worse, where the men were paying still greater attention to it than in New York. Dr. Bradford had an idea that he could do a dislocation in a tuberculous joint to prevent the destruction of the joint due to the crowding of the femoral head into the diseased acetabulum by the spastic muscles, and he had several cases in which he had dislocated the head out of the socket and had left it upon the ileum posteriorly. I suggested that he displace anteriorly. The cases were not followed up further than that and I imagine he was not satisfied with the results obtained. Then I came to San Francisco and it seemed to me that here, where Dr. Sherman gave a degree of attention to his cases which I have never seen equaled, tuberculosis was worse than I ever saw it anywhere else. We did so many of these hip joint amputations that at one time I was told we had the world's record at the Children's Hospital for the Wyeth amputation. Of late years we have not had occasion to do as many as we used to do, I do not know how to account for that. Our methods are changing little by little, we are doing less of the traction and less of the bed treatment, and we are getting the patients up more and more and out in some form or other of apparatus. This bismuth, however, seems to work like a charm upon those cases in which there is suppuration and a mixed infection. We have children there to-day whom I would have thought would come under former methods of treatment to excision and amputation, but they are so much better in the comparatively short time Dr. McChesney has been injecting them that it is difficult to recognize them as the same children.

Dr. Harold Brunn: Until recently bismuth subnitrate was considered non-toxic and the few recorded cases of poisoning after its use were ascribed to arsenic or other impurities. The first authentic report of true bismuth subnitrate poisoning was recorded by Kocher in 1882; he observed that insoluble preparations of bismuth when applied to large wound surfaces may be absorbed to such an extent as to produce characteristic symptoms of acute stomatitis, black discoloration beginning at the border of the teeth, spreading over the mouth, followed by intestinal catarrh, pain and diarrhoea, and if the poisoning is severe a squamative nephritis. Some six years ago I saw a case presenting symptoms similar to those in a woman who had an extensive burn and to which had been applied a paste of bismuth subnitrate and castor oil. In contradistinction to this poisoning bismuth subnitrate may cause severe symptoms by liberation of nitrites producing a pure nitrite poisoning. This transformation into the nitrites is usually produced by the action of intestinal bacteria on the subnitrate. Bohme proved by experimentation in a test tube that feces of children in contact with bismuth subnitrate liberates nitrites. An interesting case was recently reported by Eggenberger in which following the injection of a sinus of a psoas abscess in a child aged seven, 30 grams of bismuth paste was retained six weeks. Stomatitis, resembling that due to mercury, developed, pulse 130, cerebral symptoms like meningitis; although the bismuth was evacuated death occurred in a few days. It further appears that we have two forms of bismuth subnitrate poisoning, the one an acute process due to the nitrites, and the other a chronic form due to the bismuth.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting September 14, 1909.

Case Reported by Dr. Ryfkogel.

Sarcoma of Shoulder. The history of this patient whom I wish to present to-night is similar to that of a patient whom I brought before the society three and a half years ago, a case of intrascapular thoracic amputation. The first patient's operation was done for a rapidly growing spindle-cell sarcoma of the shoulder, involving the great vessels, the joint and the scapula. The man remained practically well for three years, when he had a recurrence in the lung and after another amputation he died, three years and six months after his first operation, a considerably longer period than the average. This patient to-night has had his amputation for another purpose. He had an epithelioma of the finger which developed five years ago. The finger was amputated but the growth progressed and Dr. White of Sacramento amputated that arm at the middle of the humerus four years ago. The patient remained perfectly well until August, 1908, when he noticed a mass in the axilla and about a month later it broke down. When I saw him in November he had lost very greatly in weight and was continuing to lose rapidly and was apparently shortly about to die. I did the amputation and have here the specimen which, however, does not show the extent of the growth. It was impossible to remove it by curetting or local resection because it invaded all the great vessels and nerves, so I decided to do an antrascapula amputation. This was done the middle of last November, and the man made a very rapid recovery. We left a very large area which the patient did not wish to have grafted, but it has now healed over. There is a very interesting point in comparing these two cases. In the first case the nurse had not prepared the cocain for the infiltration of the brachial plexus, the man was in a very good condition yet he developed symptoms of very severe shock which did not disappear for forty-eight hours. The present patient, however, was very much enfeebled before we excised the brachial plexus and he was in better shape at the end of the operation than at the beginning. The operation is a very easy one. After the preliminary ligation of the subclavian artery and vein the arm almost falls off. The remarkable thing in this case is the rapidity with which this patient has gained weight since the operation. The man unquestionably has pulmonary metastasis since he had a cough developing about the time of the growth in the axilla. The operation was not done with the expectation of curing him but of prolonging his life and making him comfortable. I think these amputations should be done more frequently and particularly in extensive carcinomata of the breast. If you try to clean out the growth in the axilla you injure the veins and even if you do not the veins become occluded and you have a very painful swollen arm of no use to the patient. This operation certainly relieves the suffering in the condition.

Dr. Ethan Smith demonstrating cases:

I have here some cases with vertebral tuberculosis and my purpose in showing these cases to-night, is not with the idea that I am showing anything new, but something quite time-honored. This first patient is wearing a plaster of paris jacket with a jurymast, and I believe this to be a most hygienic, most humane and most effective means of treating tuberculosis of the spine, in whatever form you find it. This little boy when he came into my hands, was on his elbows and knees and there was evidence of fluid in the pleural cavity on the right side. The temperature was 102.5. It would take him nearly ten minutes to cross a room on his knees and elbows, and he was compelled to take his food out of a saucer with one hand while reclining on the knees and elbows. His spine is now so nearly solid that he can dispense with the jurymast. In addition to this trouble he has had an attack of whooping cough recently, which was very severe, and also acute mastoiditis on the left side. Besides he has had diphtheria and pneumonia. He has so much improved under this treatment, that he is now going to school and has no trouble in getting around at all.

The second case came to me with quite a bit of disability. She was not able to stand or walk easily. She had had an abscess, which had been treated very well and when I saw her it had healed temporarily. It again opened, however, and healed under bismuth paste. She did not do as well as I wanted, until the jurymast was applied. The condition was high up in the spine. She is now going to school.

The third case came to me from Arizona about three months ago, was unable to sit or stand. He is now recovering from an attack of gastritis, and on this account he is not as steady as he might be.

Dr. Samuel J. Hunkin discussing:

Of course these cases are interesting to me, but I hardly care to let them pass entirely without calling attention to the faulty principle of treatment here shown, which differs radically from the principles followed by men of standing throughout the world. The apparatus shown here is based upon the double cone principle, that is, taking the pelvis as a cone, to make it support an inverted cone above it. This plan is not usually followed to-day, but apparatus is used based on a lever principle, which is much lighter and incidentally much more efficient. In the cases shown, which aim to lift the upper segment on a jurymast, the mechanics are not properly carried out for it is arranged in each instance so that the base of the jurymast is fixed on the kyphos with the plaster curving over the kyphos, so that weight must of necessity be transmitted throuh the kyphos and not direct to the pelvis, besides the tiny children have no pelvis capable of handling the weight. While the apparatus does give a certain amount of immobility and helps a little in that manner it can only be looked upon as crude and inefficient.

Dr. Ethan Smith, closing discussion:

In all due deference to Dr. Hunkin's opinion, I will say that the weight is not borne by the kyphos but upon the crests of the ilii and the pelvis where it should be. The front is so arranged as to prevent harmful pressure. Crude though the method may be, these cases get well and I will add that one of these cases was treated by the stretcher frame and came out of a hospital not very far away, in a very pitiable condition, but is getting along very well since I have applied this apparatus. These patients who could not stand when they first came to me are now able to walk. While the apparatus may be crude and all that sort of thing, the children get better and get well. I am entirely satisfied with the crudity!

Dr. J. C. Newton, demonstrating:

I wish to demonstrate to-night a case of external anthrax. I do not know how frequently this disease has occurred in this part of the country. It is referred to in the text books as a rare disease. There were fifteen cases treated at the General Hospital in Philadelphia in five years, and one case in sixteen years at Johns Hopkins Hospital. Dr. Tait

has told me that he has treated a number of these cases here. There had been on the ranch from which this patient came between two and three hundred cattle die of this disease within the past three weeks. About the 16th of August, the day following the removal of the hides of several dead cows, the patient noticed a small pimple on the back of his hand which rapidly enlarged. On the third day he consulted a physician, who incised and cauterized the wound. This apparently had no effect and it continued to enlarge. I saw him ten days after the pimple started. He was then complaining of malaise, headache, loss of sleep and appetite, and enlargement of the epitrochlear and axillary glands. There was no pain. The temperature was 102.2, the pulse 110; there was considerable oedema of hand and forearm. On the dorsum of the hand there was a circumscribed indurated carbuncular lesion about 2 inches in diameter, dark bluish in color and covered with vesicles, containing a bloody fluid. The smears from the wound showed bacilli resembling anthrax and the diagnosis was verified by guinea pig inoculations, the first pig dying within forty-eight hours after the injection. Three days later Dr. Ryfkogel injected a pig and the result was negative; at that time the ulcer had been treated with germicides for three days and with evident effective results. I have here under the miscroscope a smear from the spleen of the inoculated guinea pig, which plainly shows the bacilli. There are also tubes of its growth on blood serum. The diagnosis in these cases presents no difficulties, the miscroscope is resorted to immediately and there is no doubt about it, the findings being verified by animal inoculation. The occupation of the patient is significant and the central eschar-crown and indurated base of the lesion is also typical. The only other condition for which it is liable to be mistaken is carbuncle. Anthrax pustules usually develop rapidly; this one evidently developed within 24 hours of the inoculation. The treatment varies considerably from mild local applications to radical incision with varying good results. The 15 cases reported in Philadelphia were treated by radical incision and sclavo serum; all but two of these cases recovered. Barlach has used the galvano cautery in thirteen cases, and most of them recovered. Struebel recommends the use of carbolic injections. I injected in this case in three different places five drops of pure carbolic acid, followed by local applications of mercury cyanide 1:2000 and alphozme 1:1000. Internally, guaicol carbonate and quinin sulphate 5 grains are being given. The Cutter Laboratory in Berkeley is preparing an anthrax vaccine, but on account of the strongly resistant spores some difficulty is being experienced. As to the prognosis the internal form is usually fatal. In three cases the mortality is given as about 25 per cent.

Dr. H. D'Arcy Power, presentation of cases:

The two cases which I have to show you this evening I am bringing scarcely so much for the condition of myxedema as for some of the accessory symptoms which give it an interest apart from the myxedema. The two cases came under my charge about one month ago with the following histories: The mother was in excellent health up to the time of the birth of the daughter. Shortly after the birth of the child she commenced to suffer from weakness and rapid and progressive enlargement of the face and of the soft tissues of the upper part of the body, the hands became clumsy and she seems to have gone on for many years in more or less of an invalid manner without any diagnosis having been made of the case. The child was born about the time of her first departure from health, she grew up in an abnormal manner, always being too stout, excessive in the size of the legs and hands, and suffering, like the mother, from general debility and presented the ordinary characteristics of myxedema. There was no diagnosis made in the early stage, and a positive diagnosis was not made until three years ago, when a practitioner put the girl under treatment with thyroid followed by rapid improvement. The mother's condition was even then not noted and she passed on without treatment until early in this year, when a practitioner in Nevada seeing the case made the diagnosis, and instituted treatment in the usual manner. The mother made a more rapid recovery than the child and the greater part of the adipose tissue passed away, the working capacity increased and she is here with comparatively little of the myxedematous symptoms left. Both of these patients came to me because they seemed to have reached a point where further progress was not being made, and in the case of the girl a further diagnosis was made of an aneurysm of the aorta; this was the point upon which they sought my advice. The mother is practically well; I have had her under treatment for the last three or four weeks. Her fingers have improved greatly under treatment. The girl's condition is interesting in several ways, because it presents some departures from the normal myxedematous type. Never at any time was she affected much in mentality, the development has been normal; she menstruates regularly, there is nothing abnormal in the digestion or in her fingers. We have still some of the peculiarities partly of the myxedematous and partly of the mongoloid type. It is often sharply differentiated, but here you can see for instance that she has the epicanthus, has the arching of the eyebrows, also met with in myxedema, and a brachycephalic condition. The index is 86. The hips are asymmetrical, there being a difference of 2 inches on the two sides. I have here some photographs which were taken four weeks ago, since when there has been a marked improvement. When she came under my care there was a great deal of pigmentation of the face, which is now improved. The photographs show the reason for the diagnosis of the aortic aneurysm. There is considerable enlargement of the upper portion of the right thorax over an area of some 7x8 cm. I examined her very carefully but cannot justify the diagnosis, there are not the usual symptoms or signs of aneurysm. I had the X-ray plates taken, thinking that there might be some sarcomatous change, but the radiograph showed, as you see, the bones perfectly clearly and the aorta is defined and normal. Extending beyond the aorta you will notice that there is a decided dark area running down with perfectly definite outline, and also shadow masses extending more or less all the way from the upper portion to the lower part of the heart; furthermore, the right ventricle is considerably dilated, although the girl is not suffering with any cardiac symptoms. I came to the conclusion that we were dealing with a large persistent thymus gland, but I am not sure that the enlargement of the heart is due to the pressure. We have demonstrably a case of thymus enlargement as shown in the radiographs. In looking up the literature I find that Wertin gives a good description of thymus enlargement, and he makes the statement that as a rule the thymus lies behind the sternum and over one-third of the pericardium. The lower formation may extend to the apex and these shadows are probably diffuse thymic masses. In other cases they may ascend as high as the floor of the mouth. Again he says that bulging of the upper part of the sternum has been met with in many cases, and that the body fat is usually abundant and very much increased. The facies are of the adenoid type and the complexion is pasty. We have to consider how many of these symptoms are hyperthymic rather than hypothyroidic.

Dr. Ebright discussing:

The cases which Dr. Power has presented this evening are peculiarly interesting in that they both occur in the same family, and also in that they come from a region in which we know a great many goitres occur. While diccussion of the treatment of myxedema is not included in the scope of Dr. Power's remarks, the mention of two important points is forced upon us. On one hand large doses of thyroid extract are too often given at the start without a close watch for tachycardia, which is probably one of our best guards against overtreatment. On the other hand after some months of successful treatment the patient is very prone to feel secure in taking the daily tablet and is lost sight of. He should be made to understand that his best interests demand that he shall report to his physician at least once or twice a year.

Dr. H. D'Arcy Power, closing discussion:

I ought perhaps to have shown you a copy of the radiograph in Dr. Wertin's report. This gives practically the same condition which I have shown in this patient. Here is a radiograph of a normal aorta and heart, and here is one from a patient having thymic asthma. The latter shows practically the same condition of the upper part that is present in mine, except that you have not the diffuse masses scattered over the heart. The point as to the extent of the mass on the right thyroid can be reasonably accounted for. We have to remember that the thorax is in an extremely small space and does not allow much adaptation. The distance between the sternal notch and the spine behind is only 2 cm., therefore there could be no absolute growth in that direction without tracheal compression, and it is said that thymic death is due to this cause. Now there is no reason why both of the lobes of the thymus should be enlarged and under condition of pressure due to the large mass it seems to me to be perfectly natural that the growth should tend toward the right more than to the left. In the limited area where the growth has taken place there is the adaptation usual in the body and the growth is directed to the larger area. As to whether the shadows are fat masses or thymic masses we must remember that the report shows that growths may extend all the way from the floor of the mouth down to the apex of the heart, and we might look upon them as lymphoid growths. As to the question of the rapeusis, both of the patients had been neglected in the proper administration of the extract. When they came into my hands they were using 15 gr. per day; I increased it, but had to go back because of the rapid action of the heart, and so brought it up to 22-25 gr., and most of the swelling disappeared; the girl is greatly improved. As to surgical interference I do not think when we meet with an enlarged organ we should on that account immediately take it out, and for this reason I am content to let this girl keep her thymus as long as it does not interfere with her life nor with her comfort. As to whether we should attempt transplantation of thyroid tissue I say that she is doing well, and I think thoroughly understands the need of keeping up the treatment, which she will probably do, and finally it will not cost more than the fee for a surgical operation yielding doubtful results.

Dr. George B. Somers:

Procidentia Pessaries.

The question is asked, what can be done for an elderly woman suffering from prolapse of the uterus? In many such cases operative measures are out of the question, and as for pessaries, very often both physician and patient have given them up in disgust because they have failed to support, or even worse, have produced troublesome erosions and ulcerations. If then we have to consider a case of this sort and find that operative measures are out of the question, we must go back again to the pessary and endeavor to find out some mechanical means of giving relief. There are two ways of solving this problem. We may turn to the instrument maker or to the text books and find out what they have to offer as a mechanical help in this direction. We will find a large variety of suggestions and may proceed to try them one after another until we find a satisfactory instrument. This is the historical or empirical method and is the method usually adopted by the text books, but where we follow out a method of this sort we can gain no knowledge as to the principles which underlie the problem. The better and more satisfactory way is to go to the other end of the proposition and try to find out what the conditions are that require treatment. This is to investigate deductively. To do this we must take up the anatomy, the mechanics, the pathology of our subject. Understanding then what we have to deal with we may get some mechanical idea which will help us to treat the condition rationally. I have here a diagram taken from Garrigues which is sufficiently clear to demonstrate the point I wish to make. It will be noticed that a portion of the hip has been cut out so as to expose the levator ani and rectum. An open space is represented, which is the situation of the so-called perineal body. This open space is occupied by fascia and by certain small muscles, together with a band of the levator ani, which passes across from one side to the other. This diagram shows that a considerable portion of the anatomy of these parts is given up to the perineum, the chief function of which is to keep the vagina closed by muscular action. Now then if the perineal body is injured, if the muscles and fascia are lacerated, the parts that are injured naturally retract to one side and we can imagine that a space such as is shown in the diagram. With the loss of tissue that accompanies the perineal injury the posterior vaginal wall drops back and comes in contact with the anterior wall of the rectum. We then have dividing the vagina from the rectum only a thin septum, which consists of vaginal mucosa in contact with rectal mucosa. With nothing to keep the vagina closed, it is easy to understand the tendency of the anterior and posterior vaginal walls to sag down and form rectocele or cystocele or both. In addition the sagging of the vaginal wall pulls on the uterus and assists in the production of a prolapse. There are then a number of forces which combine to pull the uterus down: (1) Abdominal pressure. (2) Weight of the uterus itself. (3) The pressure of overfilled bladder and overfilled rectum. (4) Pull of the rectocele and cystocele. In order to study a method of rectifying prolapse which follows injury to the perineum we must see what is left in this part of the body upon which we can depend. What is there that will support any sort of a mechanical instrument sufficiently to keep the uterus in place? If we make a dissection of the perineal region we find that we have the big levator ani muscle acting as a floor. You will notice two things in diagram No. 2. In the first place the opening between the two edges of the levator ani is apparently quite large. In the normal condition there is a connecting band between these two edges serving not only to keep the edges somewhat close together but also marking distinctly the vaginal and rectal openings. When this connecting band is lost the edges separate and we have really a hernia of the uterus and vaginal walls. The next point is that running antero posteriorly there is quite a thick and distinct

band of fibres called the pubo-coccygeus, which forms the edge of the levator ani next to the vaginal wall. Now in a case of prolapsus if we put the examining finger into the vagina it will hook onto a shelf formed by the upper surface of the pubococcygeus. Now presuming that this shelf will give some support, suppose we try to treat a case of prolapse by use of a ring pessary. Suppose we fit a ring carefully in the vagina with the idea that it will rest on this shelf; we find perhaps that the next day the patient comes back saying that it will not stay. We next try a disc pessary, and she comes back with it in her hand. We try the ball, and this also proves unsuccessful. Let us try then to find an explanation of the reason why these forms do not hold. In the third diagram I have tried to represent the mechanics of a ring or disc pessary when in position. It will be seen that the main support of the ring is the pubococcygeus; that any pressure from above on the ring causes it to act like a wedge, will gradually force the edges of the opening apart, and finally force the ring completely out. The same mechanical principles hold with reference to the disc and the ball. Having found the cause of the inefficiency of these pessaries, can we make use of these tissues in a different way so as to give us a better result? I have shown that there is a shelf within the vagina on either side formed by the upper surface of the pubococcygeus. I have here another diagram which illustrates a pessary formed in order to adjust itself to this shelf. The pessary is shaped from a hard rubber ring. It has a distinct projection from below which fits in between the edges of the pubococcygeus, and two wings which rest upon the shelf already described. This pessary which is shown here is not only rationally shaped to conform to its base of support, but has been found of great practical value in actual practice. In our clinic work where we cannot find any other forms to answer the purpose of supporting a prolapsed uterus these pessaries will give the patient relief at once. I have been in doubt as to how to designate such a shaped pessary, but think that perhaps the most characteristic name would be the shelf pessary.

Dr. Henry Walter Gibbons, San Francisco, discussing:

In conjunction to what Dr. Somers has said it might be interesting to cite a specific case in which these pessaries have been used. About a year ago, a German woman about sixty-two years of age, the mother of many children, came to the clinic with the uterus in a condition of complete prolapse. There was an area of ulceration about 2 inches in diameter around the os, which was extremely irritating and bled very easily upon the slightest touch. The uterus had been prolapsed for several months the ulcer having increased gradually in size. The uterus was reduced with considerable difficulty and tampons were introduced, but the next day it had prolapsed again. Various of the ordinary procidentia pessaries were tried, and as described by Dr. Somers, they were never retained, and the woman would come the day after one had been inserted with the pessary in her hand. Dr. Somers devised this pessary and we tried it. The uterus stayed up from that time on. The ulcer at the cervix was treated every few days and healed completely in a short time. There was a slight ulceration from the pressure of the pessary, but this also was easily cured by applications and by leaving out the pessary for a few days at a time. When I last saw the patient about two months ago she was coming to the clinic about every two weeks, and was infinitely more comfortable than she had been for months before.

Dr. Frank P. Topping, San Francisco, discussing:

Knowing the subject upon which Dr. Somers was going to speak this evening, I gathered from the reports of the Cooper College Gynecological Clinic a few cases (nine in all), in which this pessary had been tried. In every case the pessary has held, the only failures have been where there has been a diseased mucosa, where erosions had to be dealt with, that is the erosions caused by any foreign body, even the softest and most unirritating tampon. The first case in which this pessary was tried was put in in July, 1907, and has been worn for 26 months. The woman was 56 years old with a persistent cystocele and previously a complete prolapse. I believe she had been operated upon for her prolapse which she had had for 37 years, the uterus and adnexia had been gotten rid of by a hysterectomy, she then had the persistent cystocele. The second case is the best illustration; the woman is 63 years old, she had a complete prolapse for many years with very extensive erosions. She had worn all kinds of pessaries, and cloths when the erosions were so bad that the pessaries could not be borne, and came in with severe erosions and quite a bit of hemorrhage. She has now worn this pessary for twenty months. For nearly two months we treated her almost every day to heal the erosions. Once we got them healed she was able to wear the pessary, and no erosions have occurred whatever. She comes every three or four weeks, and we remove the pessary and replace it. The third case is that of a woman 65 with a complete prolapse for twenty months, and very extensive erosions. These caused her very little pain. The pessary holds in excellent shape and when we have to put in a tampon she goes away almost in tears because the pessary has been left out. The fourth case has worn the pessary for thirteen months. She entered with a complete prolapse and very extensive erosions, which had been there for one month. In every one of our cases there has been complete success as far as relieving the hernia; the only difficulties in these cases are the erosions which have to be dealt with, and which exist independent of the insertion of any pessary or tampon.

Dr. F. W. Vowinckel, San Francisco, discussing:

I would like to call the attention of the audience to another form of pessary which I have used in the last 24 years, and which I think answers the purpose completely, the old Hodge pessary. It is bent so that both sides become even and is introduced in a transverse way into the vagina, the two ends rest on the shelf of which Dr. Somers has spoken, and the prolapse is relieved without trouble. I have used it in a great many instances where all other forms had failed, and can recommend it very heartily.

Dr. George B. Somers, closing:

As Dr. Topping has said a word with regard to ulcerations I may add that ulcerations which occur in cases of prolapse of the uterus are not always due to pressure or to the pessary. They are sometimes due to the prolapse itself, in other words, when the uterus is completely prolapsed and when the anterior and posterior walls come out into the worls there is a great deal of tension. The result is that we get a fissure or crack or separation of the mucous membrane which becomes the starting point of the ulcer. In other words, in many cases it is the prolapse and not the pessary which causes the ulcer. This is an important point and it shows the desirability of keeping the uterus reduced as much as possible when trying to cure ulcerated surfaces and often there is no other way to cure these cases than to put the patient to bed and keep her there until well before attempting to use the pessary.

UNITED STATES PHARMACOPOEIAL CONVENTION.

President Horatio C. Wood has appointed the following committee on credentials and to make arrangements for the United States Pharmacopoeial Convention, which will be held in Washington, D. C., beginning Tuesday, May 10, 1910. Professor O. T. Osborne (chairman) Yale University, New Haven, Conn.; Dr. H. C. Wood, Jr., University of Pennsylvania, Medical Department, Philadelphia, Pa.; Mr. L. S. Hilton, Washington, D. C.; Mr. W. L. Cliffe, Philadelphia, Pa. and Dr. James H. Beal, Scio, Ohio.

The following officers of the convention are ex-officio members of the committee: President, H. C. Wood, Sr., University of Pennsylvania, Medical Department, Philadelphia, Pa.; secretary, Dr. H. M. Whelpley, Washington University, Medical Department, St. Louis, and assistant secretary, Dr. Murray Galt Motter, Hygienic Laboratory, Washington, D. C.

TROPICAL MEDICINE.

The New York Post-Graduate Medical School is establishing in its new buildings a full equipment of wards and laboratories for the teaching of Tropical Medicine. The department is being conducted under the co-operation of the U. S. Army, Navy and Public Health services, who detail officers from their respective medical corps to assist in the conduct of the laboratory and clinical courses.

BOOK REVIEWS

The Principles and Practise of Medicine. By Wm. Osler, M. D. Publisher, D. Appleton & Co., New York, 1909.

Osler's Practise of Medicine has long been one of the classics of American medicine, and this country is still proud to claim it, even though its illustious author now makes his revisions from a foreign land. The last one of these, constituting the seventh edition of the book, has recently been issued. It brings the subject matter thoroughly up-to-date, incorporating the many additions that have been made to our knowledge during the past three years since the previous edition appeared. For one who has used this book as a guide in teaching for the past fifteen years, who during these years has read it all and parts of it many times, who has also had the privilege of becoming familiar with the author's methods of teaching at first hand as well as by reading, it will perhaps be excusable if no word is said except in praise and appreciation. There is no other text-book on medicine in the English language equal to this, as there is no other teacher equal to Osler. Many qualities combine to make this work of inestimable value, but these qualities are after all those of the man who writes the work. His immense experience, his erudtion, his clear method of thinking and of presenting his subject, his simplicity of style and absence of diffuseness, his sense of perspective, his kindly sympathy and above all his hopefulness and enthusiasm unite to make this book one that has no counterpart. This last edition has all the good qualities of the old ones, recognized the world over, ever since the first appeared. In addition it contains many recent advances in medical science heretofore scattered throughout journals and not incorporated in any one text-book. It has always been the best and this edition only maintains the long established supremacy. To pick flaws is always possible with any work of art; but to admire the greatness of a masterpiece and to be delighted by its perfections is always a more profitable attitude of mind. W. F. C.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Translated by Nellis Barnes Foster. Part 8. Gout by Prof. Dr. H. Strauss.

The present monograph attempts to give a review of the present state of our knowledge on the metabolism in gout. The formation and excretion of uric acid is the center around which Strauss builds up the biochemical structure of gout. Recent researches have shed a great deal of light on the formation and excretion of uric acid; its origin from the purin-bases, its formation in the endo—and exogenous part are clearly discussed. The recent work of Brugsch and Schlittenheln demonstrating the retardation in the excretion of uric acid of exogenous origin and the value of this phenomenon for diagnostic purposes is accepted.

The lecture of the book while complete as to the data, does not satisfy our desire for a clear exposé. This, however, is more due to the unsatisfactory state of our knowledge in regard to the place of uric acid in the pathology of gout than to Prof. Strauss.

Several errors may be corrected in a second edition. The opinion that caffeine is transformed into uric acid, advocated by Strauss, cannot be accepted in view of the work of Bondsynski. E. S.

The Cure of Rupture by Paraffin Injections. By Chas. C. Miller, M. D. Publishers, Oak Printing Company, Chicago.

In this book of 80 small pages, the author endeavors to justify a procedure which has met with considerable censure from many surgeons who have had occasion to note and rectify the mishaps of the injection treatment of hernia. No reference is made to diagnosis and the anatomical study of hernia is deemed totally superfluous. Those who are interested in the methods of many advertising "specialists" will find here a clear description of the mode of using paraffin. Before treating a hernia, the author advises "making numerous injections into the carcass of a small animal—cat, dog, rabbit or chicken." Exceedingly brief histories are given of ten patients treated by injections of paraffin. In most all of these cases the last examination was made within two or two and a half months after the injections!

In conclusion the author states that he has "felt no hesitancy in injecting cases which promised a fair degree of success, realizing full well that untoward symptoms of a local character may be overcome by free dissection, removal of the paraffin and restoration of the inguinal canal by the usual surgical means." D. T.

Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By E. von Neusser. Translated by Andrew MacFarloue. Part 3. Angina pectoris.

The present volume, devoted to the discussion of symptomatology, diagnosis and treatment of angina pectoris, presents one of the most complicated and discussed chapters of internal medicine in a very lucid manner. Like all the writings of the celebrated diagnostician, it is characterized by a clear exposé of the anatomical, pathological and physiological points involved in the pathogenesis of angina pectoris. It is an intellectual pleasure to read the discussion of the cases published to illustrate his views; free from all schematic and stereotyped diagnostic formulas, he develops his views based on the application of physiological data to the pathological conditions. Thorough knowledge of the literature published by the writers of the last century makes this treatise an exceedingly valuable one.

In the discussion of the theory of angina pectoris we miss a mention of Head's and Mackenzie's views, which seem to be now generally accepted. E. S.

Surgical Diagnosis. By Edward Martin. Published by Lea & Febiger.

A book on Surgical Diagnosis must owe its merit largely to its illustrations and the arrangement of material. This well-known surgeon and experienced teacher has given much attention to these two points. The illustrations are abundant; the greater part are original and present a varied range of material from the author's service. The work on fractures is comprehensively pictured by many tracings from radiographs, and the accompanying legends give the special features in the case history and a description of the lesion. Surface markings, that portion of anatomy which is so frequently neglected, receive due attention and careful directions are given for examining, from a surgical standpoint, the various portions of the body. There is a well written chapter on Laboratory Diagnosis by Warfield T. Longcope, and a special section on the Application of X-rays by H. K. Pancoast. The great abbreviation which has been necessary in order to embrace the subject-matter in this limited number of pages has led to a series of bald statements harnessed together with no attempt at literary style. As a consequence, though the book is made up of carefully collated facts, it is hard and uninteresting reading. This feature is almost unavoidable in a multum in parvo volume and does not detract from the book's value as a student's guide. R. R.

Diseases of the Ear. A Text-Book for Practitioners and Students of Medicine. By Edward Bradford Dench, Ph. B., M. D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College, etc., etc. With Nineteen Plates and One Hundred and Fifty-eight Illustrations in the Text. Fourth edition, revised and enlarged. D. Appleton & Company.

This text-book, now in its fourth edition and from a man holding such a prominent position in the realm of Otology as Dench, should be a model work and an example n American literature. Careful reading does not permit me to consider it as such. It is written to sell and certainly will sell, but should not go unchallenged. Many of the illustrations are mediocre, badly drawn and badly reproduced. Appleton should think more of the bookmaker's art and less of commercialism. It is time for supposedly up-to-date text-books to contain original drawings and cuts, enough of reproductions that would grace an historical museum.

The text is very readable, Dench being a good teacher. According to the preface, the chapter on "Suppuration of the Labyrinth" has been entirely rewritten with the latest functional test included. Refer to the index and you will notice that the word nystagmus is absent, also Barany. In the entire chapter devoted to the Labyrinth, no reference is made to the nystagmus in labyrinthine involvement and none to the latest functional testing of the inner ear. To my mind, too much stress is laid upon the so-called labyrinthine nystagmus, still one expects at least a reference to same in a text-book devoted to Otology and published as late as 1909.

In criticizing this book, my remarks might be taken in a somewhat general way as referring to many of our American productions. The authors must work a bit harder, have more original drawings, copy less from other text-books and insist upon the publisher spending the necessary money to insure these points. W. S. F.

Ticks: A Monograph of the Ixodoidea, by George H. F. Nuttall, M. A., M. D., Ph. D., Sc. D., F. R. S., Fellow of Magdalene College, Quick Professor in the University of Cambridge, Cecil Warburton, M. A., F. Z. S., F. L. S., Christ's College, Zoologist to the Royal Agricultural Society, W. F. Cooper, B. A., F. Z. S., F. L. S., and L. E. Robinson, A. R. C. Sc. (Lond.)

This work, which is appearing in fasciculi, will be of much importance to the student of tropical medicine, as the effects of the bites of ticks and the relation of these animals to the spread of disease are adequately discussed as well as the questions of general biology, structure and classification; and a list is given of all the literature on the subject. No existing work in any language attempts to deal comprehensively with the subject, so the voluminous literature is widely scattered and in several languages, much of it inaccessible to the ordinary student. Each fasciculus is to be complete in itself. The present review deals with fasciculus No. 1 which contains first the family characters, synonomy and literature of the Argasidae and the features which distinguish them from the other Ixodoidea. Next comes a discussion of the generic characters, synonomy, iconography and literature of all the described forms of the two Argasid genera **Argas** and **Ornithodoros** with keys for determining the various species. Finally is given in detail what is known of the general biology and medical significance of this family, including life histories, effects and treatment of bites, economic and pathologic importance, means of destroying them, etc. The work is illustrated with three plates and 114 figures in the text, most of them of a very high order of excellence. The complete synonymical, iconographical and bibliographical lists are invaluable, and the arrangement is such that any one with ordinary systematic training can identify from it any tick described in the work. The study of arthropod-carried diseases is only half done when we observe the process in the patient, and such works as the one under review which aid in determining and investigating the disseminators of the casual agents of the diseases are indispensable to the student of scientific medicine.

C. W.

Diagnostics of Internal Medicine. By G. R. Butler, M. D. Publisher, D. Appleton & Co.

Successive editions of a medical work seldom call for extended review unless very radical changes have been made in the subject-matter. It suffices ordinarily to note changes and to suggest future improvement.

The present volume is the third edition of this well-known work and the fact that the author finds it necessary to make a revision about every two years is some measure of the success of the book. The field covered is an extensive one, including physical diagnosis proper, clinical pathological methods, and diagnosis direct and differential of the various diseases that are included within the field of internal medicine. The first two are embraced in Part I of the work while the latter makes up Part II. The two parts are intended to be complementary. It is doubtful if Part II is a very useful feature of the book. A comprehensive and useful discussion of the diagnosis of medical diseases requires much more space than can be allotted to it in a work of this kind, and it would seem better to make it the subject-matter of a separate volume. For example, the Diagnosis of Diseases of the Tropics is covered in five pages with the result that scarcely more knowledge is imparted concerning these affections than can be obtained from any good medical dictionary.

We notice in the preface that the section on kryoscopy has been omitted from the present edition. A new section on Life Insurance Examination has been prepared, but in the judgment of the reviewer it were better omitted. It is practically a duplicate

of instructions issued by insurance companies to their examiners and can be of no use to the student.

The chapter on X-ray diagnosis has been curtailed. In its present form, it seems much too optimistic and must certainly lead to a false conception of the ease and certainty of X-ray diagnosis in certain obscure troubles. To quote, under the heading "Stomach," we find the following paragraph: "The size, shape and position may be determined, and the degree of motility, together with the character of the peristaltic waves. Displacements are readily seen. The presence of atony, hypermotility, obstruction at the pylorus, infiltration or tumor of the stomach wall, and ulcer may be learned with accuracy." While these statements may possibly be true in a certain sense, the recognition of some of the conditions mentioned is attended with very decided difficulties and uncertainties.

The Wasserman hemolytic test for syphilis is explained and the modified Noguchi reaction described. In view of the inclusion of these facts in the book, it would seem proper to make mention of the newer test devised for the cerebrospinal fluid. The discussion of lumbar puncture and the examination of the fluid seems very meagre.

The sections on examination of the blood, sputum, stomach content, and feces while necessarily brief are yet good. When the subject of the urine is reached one is surprised to find the statement that the technic or urinalysis is omitted because of the wealth of special treatises on this subject. Why the same reasoning should not apply to the blood, sputum, etc., we fail to see.

The book as a whole makes a favorable impression. The student will get the most use out of the first part where the subject-matter of physical diagnosis is well presented. Illustrations are numerous and good. The frequent use of the nude female figure initiated in the first edition is continued and while undoubtedly of value from the commercial standpoint may find objections in the minds of some. H. W. A.

Further Advances In Physiology. Edited by Leonard Hall, M. B., F. R. S., pp. 440. London, Edward Arnold, and New York, Longmans, Green & Co. March 7, 1909.

In this praiseworthy book the results of recent work of physiologists are set forth in a digestible form so that the busy clinician may without much effort supplement his knowledge of physiology and bring it up to date. The book contains many advances in the subject, and the clinician who reads it with a mind alert for applications will find it most suggestive for progress in his own work, while for the rigid-minded physician it will diminish the tendency of wallowing in the slough of empiricism.

The nine chapters were written each by a different author and accepted by the editor without changes. Those that are especially good are the chapters on the cell, the cardiac cycle, the vascular system, and the functions of the cerebrum. In some of the chapters the authors were unmindful of the time of the reader in that they omitted summaries and conclusions and made it tedious to sift out the essentials. In reading it one must wade through many improved theories, histories of theories, wordy paragraphs and references for facts in order to obtain the isolated facts that are scattered through. The unessentials might well be printed in a different type or consigned to an asterisk system.

Chapter 1. Treats of cell biologically and gives its chemical composition in a simple and easily comprehended manner. A cell is not a fixed chemical compound, but its constituents are bound together by all degrees of affinity from chemical combination to absorption. Example of latter is oxyhemoglobin. The nature of affinity of cell for food, drugs, C O_2 and O and the processes of metabolism and other cell activities are described and also the action of balanced solutions.

Chapter 2. Contains a good description of bundle of His and of movements of heart. Artificial stimulus of a rapid rate causes a cardiac beat of a slower rate. There is no summation of stimuli in the heart and it can not be tetanized (bearing on cardiac massage). Heart has a tonicity and in life is never fully relaxed.

Chapter 3. Events of cardiac cycle and interpretations of tracings from arteries, veins, muscles (externally and intra-oesophageal), and ventricles are well treated. "C" wave of nervous pulse is caused by combination of arterial pulse and bulging of tricuspid valve in relative proportions in different cases. "V" wave is caused by both rush of blood filling auricle and end of ventricular systole and the raising of the "A V" ring at beginning of ventricular diastole.

Chapter 4. Tells of Carrel's work in vessel and organ transplantation. Gives blood pressure in many vessels and under many conditions. Arteries exposed to air and manipulated contract. Freezing prevents this. Hence bleeding after this anesthesia. Paradoxical pulse (i. e. fall of blood pressure on deep inspiration) is normal. Closing vessels of one lung usually causes no decrease in arterial pressure. Mental work and painful emotions send blood not to brain but to abdomen. Pleasurable ideas send it to periphery. Sedentary brain workers have stagnation of blood in abdomen and hence dyspepsia. Urine is not secreted by mechanical filtering, but the fluid part pervades the tubules by absorption and surface tension and concentrate waste products and extrude them in vacuoles into the lumen.

Chapter 5. Lung movements are well described and differently than in the textbooks. Apex moves very little and hardly at all in shallow breathing, and is therefore the seat of tuberculosis.

Chapter 6. Contains a wordy popular discussion on exercise and its effect on bodily functions but not much that is new.

Chapter 7. Brings physiology of nerves up to date with very little advance. Nerve fibres in cord do not regenerate, as neurolemma cells are necessary. Peripheral regeneration is almost surely a continuation of centra: fibers and these may branch.

Chapter 8. Is intensely interesting. Cortex may be divided according to some of its functions histologically by the relative development and time of appearance of the pyramidal cell layer. Thickness of this layer increases with the height in the scale of evolution, is great in the prefrontal region, is an index of degree of intelligence, and is shrunken in dementia. Granular layer (next internally) is for reception or immediate transformation of impressions from lower sensory neuroses and other parts of cortex. Polygonal cell layer governs instinctive actions. Region of broca is discarded and new areas of aphasia are given. Dual personalities, one-ideaed cranks, and certain dementias are explained.

Chapter 9. This is a long discussion of adaptation to light and theories of color vision, but is merely of scientific interest to the specialist. Conclusions are unsatisfactory. Eight pages of theories of color vision of the ancient Greeks seems out of place considering the title of the book. S. B.

BOOKS RECEIVED.

A Text-Book of Operative Surgery. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By

Warren Stone Bickham, Phar. M., M. D., Visiting Surgeon to Charity and Touro Hospitals, New Orleans. Third revised edition. Octavo of 1206 pages, with 854 illustrations, entirely original. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $6.50 net; half morocco, $8.00 net.

A Manual of Chemistry. A Guide to Lectures and Laboratory Work for beginners in Chemistry. A text-book specially adapted for students of medicine, pharmacy and dentistry. By W. Simon, Ph. D., M. D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; Emeritus Professor in the Maryland College of Pharmacy; and Daniel Base, Ph. D., Professor of Chemistry in the Maryland College of Pharmacy. New (9th) edition, enlarged and thoroughly revised. Octavo, 716 pages, with 78 engravings and 9 colored plates, illustrating 64 of the most important chemical tests. Cloth, $3.00 net. Lea & Febiger, Philadelphia and New York, 1909.

A Text-Book of Protozoölogy. By Gary N. Calkins, Ph. D., Professor of Protozoölogy in Columbia University, New York. Octavo, 349 pages, with 125 engravings and 4 colored plates. Cloth, $3.25 net. Lea & Febiger, Philadelphia and New York, 1909.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, $2.75 net. Lea & Febiger, Philadelphia and New York, 1909.

The Practitioners' Visiting List for 1910. An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, $1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

The Popes and Science. The Story of the Papal Relations to Science from the Middle Ages down to the Nineteenth Century. By James J. Walsh, M. D., Ph. D., LL. D. 400 pp. Price, $2.00 net; postage, 15 cents extra. Fordham University Press, N. Y. City Office, 110 West 74th Street.

A Treatise on the Principles and Practise of Medicine. By Arthur R. Edwards, M. D., Professor of the Principles and Practise of Medicine and Clinical Medicine in the Northwestern University Medical School, Chicago. New (second) edition, thoroughly revised. Octavo, 1246 pages, with 100 engravings and 21 full-page plates in colors and monochrome. Cloth, $5.50 net; leather, $6.50 net. Lea & Febiger, Philadelphia and New York, 1909.

A Text-book of Practical Therapeutics. With especial reference to the application of remedial measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M. D., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Thirteenth edition, thoroughly revised. Octavo, 951 pages, with 122 engravings, and 4 full-page colored plates. Cloth, $4.00 net; leather, $5.00 net; half morocco, $5.50 net. Lea & Febiger, Philadelphia and New York, 1909.

A Text-Book of Surgical Diagnosis. For Students and Practitioners. By Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania, Philadelphia. Very handsome octavo of 764 pages, with 445 engravings, largely original, and 18 full-page plates. Cloth, $5,50 net; Lea & Febiger, Philadelphia and New York.

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